

The Indian Theory of Evolution (When west met the East)

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Chapter 1 .

Secret of Pranava –Today,Yesterday and forever

“Agnirvai Vaak “

Word is Fire .It shines , and reveals itself .Says Veda. The origin of word, its Varna,Dwani ,order and its use was studied in India right from Vedic times. There was no other ancient civilization which had given so much of literary evidence about the consciousness of human beings who spoke,wrote and shared the word. This study is encoded in the Sabdasasthra, Vyakarana,Siksha,Chandas,Niruktha,Kalpa ,music, Jyothisha ,manthrasasthra,yoga and Vedantha . Study of Sabdasasthra and Nadabrahman is pure and simple science of word and language , and not a mythological concept. It is not a fantasy either. Human beings are able to store numerous words in their intellect and to make use of them when needed. That is , human being is a walking Amarakosa (lexicon).Amara is endless,eternal. Kosa is a treasury.A treasury eternal of words !! About this mental lexicon of human beings , research is progressing recently only .Three editions of a book on this subject came out in 1987,1994 and 2003.(Words in the mind: Jean Aitchison).According to this book an educated adult can know minimum of 50000-150000 words. A person who knows 60000 words of a language, if he/she happens to hear another person speaking in the same language , discovers a foreign word in it within 10 minutes , if the speed of checking is 120 words/sec. But, in reality, a person discovers it , the moment it is uttered. The speed is then 1/100 of a second. This mental process of spoken language and that of written language (using a Dictionary) are different . Mind can process words faster than a book (dictionary).The differences in pronunciation is felt in spoken language only, and not in the written script.

1 words are endless.

2. We process it within a second

Therefore, words must be arranged orderly and stored in orderly fashion in our memory .Memory is not a wastepaper basket but a wellorganised neatly arranged, orderly treasure. The people who study human mind's collection of words are called psycholinguists. The tools they use for this are :

1 Intellect

2.The methods of study using intellect

The methods of study with which they learn mind's Amarakosa (Lexicon) are:

1.Search for and discover all words, including the words created by a fault in the pronunciation (Apabhramsa) .The word searches and slips of tongue are all recorded.

2 .Linguistics and Linguistic corpora

3. Psycholinguistic experiments

Thus the planes of language,sound,biology,medicine ,psychology become merged in a single whole.This Advaita of Indian Sabdasasthra,Sahitya,Sangeetha,Ayurveda,Yoga, and Jyothisha had happened millennia before.

When an object is lost we search for it in our home, surroundings. But we also search in our memory , when we last saw that object and where. It is those places we search most. But if a word, a language or a culture is lost where should we search for it ? How we should search for it ? Sabdasasthra does his search through Sruthi, and smriti .Knowing this secret , we can search for our lost smriti and through it the lost language,word,culture. If we search in the last century , or in the previous 500 or 2000 years alone, we may not be able to discover the entire Samskaarasmriti (cultural memory) of India. Because Indian culture was present at least from the last Ice age (10000 BC) and came to a slow decline after BC 3100 , which is the decline of the Saraswathi-Sindhu-Harappan culture , following Mahabharatha war.

Suppose we see a description of an instrument in a book. But , it is not discovered . Then how can you study it ? Make a model of it following the textbook description. "The best way of finding about something is to try to make it oneself." (pp 29 Modelling the Mind Lexicon).Whether it is the Universe , or the mind's lexicon, culture or computer this creation of Model is essential for its understanding.

In Milton's Paradise Lost Raphael tells Adam that God made the argument between men about the models of Universe.

He his fabric of the Heavens

Hath left to their disputes ,perhaps to move,

His laughter at their quaint opinions wide

Hereafter,when they come to model heaven

And calculate the stars.

We will not see this duality concept in Advaita as visualizing Astrophysics, Amarakosa, subtle aspects of culture and the Yogadrishti of a calm brain (Neuronal network/bioenergy fields) as a single whole and not as different entities. The darsana (view) of each individual may vary depending upon a ratio of quality. Golakayanthra of ancient Indians (Modern Clock) was a model of the Universe in India. The supposition of a geocenter in a Golakayanthra, is to understand the position of observer on earth, and the relative change in position of observers on earth. 24 Hours or Horas (Ahorathra) is depicted on this Golaka. Some children grasp the lessons late. Others very early. God does not discriminate the child who learnt it first and the one who learned it last. If Indian learned it first, the west learned it last. Therefore, the principle of teaching from a geocentric position, by an Indian Guru to a western pupil, was misunderstood for a long time as ignorance of the Guru. Arguments on earth arise when the understanding of a particular idea differs due to difference in quality and grasping power of individuals.

Socrates compared Mind which collects memories to a nest with different varieties of birds caged. Cicero called it the treasure house which collects everything. Sherlock Holmes of Arthur Conan Doyle said: A man's brain is originally like a little empty attic, and you have to stock it with such furniture as you choose." None of these are justifiable metaphors for memory. Because, none of these are arranged in orderly systematic way. Therefore, Kant used metaphor of a library, where each is given a number and label so that each can be taken out at will in a systematic orderly way. This library metaphor is used in different context, in different way by a doctor. When a client loses memory after a coma, and regains it slowly, he/she utters words which are not the ones he/she wants to utter. (That is brain remembers the exact word, but utters the wrong word). Doctors then say: "The shelves have become badly jumbled" There is a central catalogue in human memory, just as in a library. The popular words in language for day to day use are kept at a place where one can take it out easily.

To organize words, and to grasp them, one has to know the meanings of words. Word and its meaning are inseparable like Siva, and Sakthi in Indian philosophy. According to Novelist Evelyn Waugh, words have basic inalienable meanings, and a word which seems to be separated from its meaning is either a metaphor or an inexcusable vulgarity. That means words are precision equipments to be used very carefully. They are the equipments of our thoughts. The boundaries in natural languages are very slim and light. Especially in India with numerous local languages, each word from one language, like a live butterfly, fly to another creating a thousand meanings and metaphors. The life of these words give beauty and vivid varieties to our expressions. The beauty of this is inaccessible to many linguists who concentrate only on the outer structure of words and forget the inner meanings/beauty. Language is not a dead animal to dissect out. It is BEAUTIFUL LIVING CULTURE. Some people think that Sanskrit is a dead language, since no one now uses it as a language for day to day conversation. But, Sanskrit was always the elite educational language of Indians who conversed in their own local dialects for day to day communication. (until it was replaced by English). In every local language of India we can see the living wings of Sanskrit as words and usages. As long as such local languages exist, and people use them Sanskrit language also will live. My own language Malayalam has majority of words from Sanskrit and Sanskrit grammar. Therefore, as long as Malayalam language exists Sanskrit will not be a dead language. This can be said of many other Indian languages too.

We see an external object.(flower,sun,moon,cow etc).Mind creates an idea, a meaning for that object. We give a name to the object .Thus an object gets a name, a word /name gets one or more than one meanings .This was called Naamaroopaaathmakam Jagath (World is with a form and a name).The powers of Optics(that which is seen) ,heard (Acoustics),felt (experienced) and given a name /idea (language) and the grasping consciousness within together form a Naamaroopaaathmakam Jagath. If there is only a single fixed meaning for a object and its name , it is called a snapshot memory in modern terms. Episodic memory is different from this. Here we remember an event in whole. We give a name /label to that. When we say a word Cat, if a cat is remembered it is snapshot memory.But , whether it was a walking or sleeping cat ? Whetehr it was drinking milk ? when and where did you see it ? Was it your own pet domestic cat ? If so the various events connected to that cat and your life during that period. Then it becomes an episodic memory .The catness of cat, sunness of sun , squareness of a square – if all these are known, a philosopher understands the Sindhuthwa of Saindhava scripts and language .Thus , one creates the awareness of one's own culture within, and not without.

What is a square ?

1 A closed figure with a plane ?

2 A figure with 4 sides ?

3.The geometrical figure with 4 equal sides ?

4. The figure in which all inner angles are equal ?

5. A unit of timespace continuum of this universe , where Karnna (Diagonal) = side +1 ?(sides being 18 and diagonal being 19)

The fifth is not applicable to a ordinary square drawn on a piece of paper or to a Vaasthu creation that is manmade. But is applicable to a geocentric Golakayanthra , with time and space , since diagonal $19 \times 19 = 361$ nearest to a 360 degree circle. By using such checklists , one can actually examine the definition. Thus a square is a form which can be experimented with, and examined , to understand it. All forms are like that. A human being cognizes a form, with its name,a word or sound for defining it,the visualized image created by such names in mind,the Sruthi and Anumana .Therefore , knowledge of this universe is based on the same principles. The knowledge shows the grasping power of the brain of the one who grasped it. We can collect and save every being of this biodiverse universe, every culture, medicines,games,names,languages,and everything- depending upon the similarities,differences,family resemblances and so on- and giving aname and different meanings to it .This storage can be done both in our memories, (smrithi),books (Kosa,Lexicon) and on computers. Thus, Indian Gurukula were meticulously collecting every science and art , every biodiversity of universe in their fields of research and sharing the knowledge every 12 years , at the center of their cities for common benefit of all.These open universities functioned from time immemorial. The specialized branches of knowledge were integrated and saved in the minds and Grantha of Gurukula. When a people do this classification and storage of knowledge in orderly fashion, a model or prototype and slight variations from it are born gradually. The new ones are classified according to its similarity or difference with the prototype unit . This is now

endorsed by the California University (Berkeley) Psychologist Eleanor Rosch. Indian prototype was Sathwika Quality. The others (Rajasa, Thamasa) and objects were classified by comparison to the prototype Sathwika. The use of Prototype theory is to identify all different varieties (from prototype) and classifying and protecting the biodiversity. Human beings come between the poles of Deva and Rakshasa in quality.

	<i>Sathwika</i>	<i>Rajasa</i>	<i>thamasa</i>	
<i>Aho (HO) Day/Surya</i>	<i>Brahmana</i> <i>1 Vaanava (Deva) (Vaanara/Kaapeya) Which includes A. Pakshi (Bird) B. Apsara C. Gandharva also</i> <i>2. naagamuni 3 krodhava naaga</i>	<i>Kshathriya, vaisya (Majority of Humans are of this quality) Kuberanaaga From him Agni was born</i>	<i>Soodra, (Aadisoodra) Includes Yaksha, Rakshasa A mixed class by cross fertilization (panchama)</i>	<i>Rathra (Raa) Night (Chandra)</i>

According to this, the 4 sandhya (Agni) were born the solar and lunar races of day and night (Ahorathra). Every living being, oushadi vanaspathi are included in this classification. Naga tribes have both Brahmin, kshathriya and vaisya qualities. Their behavior depends on ratio of thriguna in them. Nagamuni are Anantha, Vasuki, Aasthika and Pathanjali. They have sathik yogasidhi. Thakshaka, on the other hand, though a nagamuni, shows yaksha, rakshasa, aadisoodra qualities.

Why this prototypical classification ?

1 Because human beings love to orderly and systematically arrange his/her thoughts and knowledge systems. If not arranged systematically, intellectual disorders and arguments issue from them. And this creates cognitive dissonance (Vivaadha/Vivaadhi). The dissonance creates wars in human minds. Internal struggles create sorrow and lead to external wars.

2. The systematically orderly arranged wisdom of thousands of years has made man wise and peace-loving. If one takes that wisdom as prototype, and think of similarities and differences, one can identify one's weaknesses and strengths and thus know oneself and get out of stressful thoughts. Thus problem-solving happens naturally.

3. Prototypes are internal theories. To protect life and dharma, to do duties perfectly human race have created such models. These were the results of millions of years of thoughtful, careful observation, cultural educational methods, memories of several generations of teachers, and their genius. Thus it integrates a people's geographical, cultural wisdom. Their cognizance of the world/universe around them is seen in that. (The consciousness of a collective wisdom may be less or more in an individual, depending upon his/her personal qualities, not on the difference in culture).

In ancient Incan calendar Incas used to work based on a 9 day (Navagraha) schedule. They work for 8 days continuously. Pth day is market day. The earth has 8 directions. Similarly . a king , if he has 8 wives, (King is compared to Sun) each day represents a queen's mansion. King lives in the mansion of

Queen 1= first 8 days;

Queen 2= next 8 days

Like this with 8 queens 8 X8=64.

The 9th cycle of 8 days makes up 72 days. (A meeting of all the 8 directions/wives) By 72 days one circle is completed. When 5 such cycles happen it is one year. Thus Incas had a practical method of incorporating one's life with directions and a market economy of their known geographical universe , and cosmic universe. This I mention here to show comparison between Indians and their Saphthaswara, saphthamthruka, 72 Melakartha system , 7 day week and mandala way of cyclical universal pattern which I had explained in many of my previous works. The 8 Lakshmi of Vishnu , as the basic Raagini (Queens) of 72 Melakartha is the same as that of Inca's 7 queens.

What is the role of a word in this prototype system? Are they atoms or a cobweb ?

1 Semantic Primitives:- In every language , the semantic primitives are One. It is a basic ability of human race for language .As Leibniz said, when man is born, he brings with him the Letters (Akshara) which is the basis for human thought. This 17th century theory , imitating the Atomic Theory of Roman poet Lucretius approves a fixed universal vocabulary (Chomsky). Since I have discussed the Indian theory of Nadabrahman, and the dwani, varna theory in it , Paramanu , and wave theories of sound earlier (Sudhasindhu, Brahmasindhu, Nadalayasindhu, Ragachikitsa etc) I am not repeating them here . Indian music with 7 swara, and permutation combination of its 22 positions creates 72 basic raga and from them anantham (endless) varieties of Raga. With 51 letters (akshara) endless Gana, jada, karma paatabheda are created . These endless possibilities of language and music are then compared with the naadeepravaaha (neuronal channels /bioenergy) and Mandala of cosmic energy. A word when it is linked to a meaning , gives numerous new creations as said in Pathanjalyogasuthra.

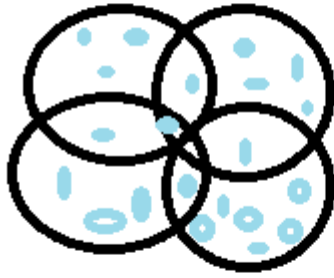
In English language, this atomic theory has two problems.

1 In English language, what these atoms are not yet discovered.

2 .They have not shown any sign in combining of words

(It is noteworthy that in Paramanusidhantha according to Kanada such problems does not exist in Sanskrit language)

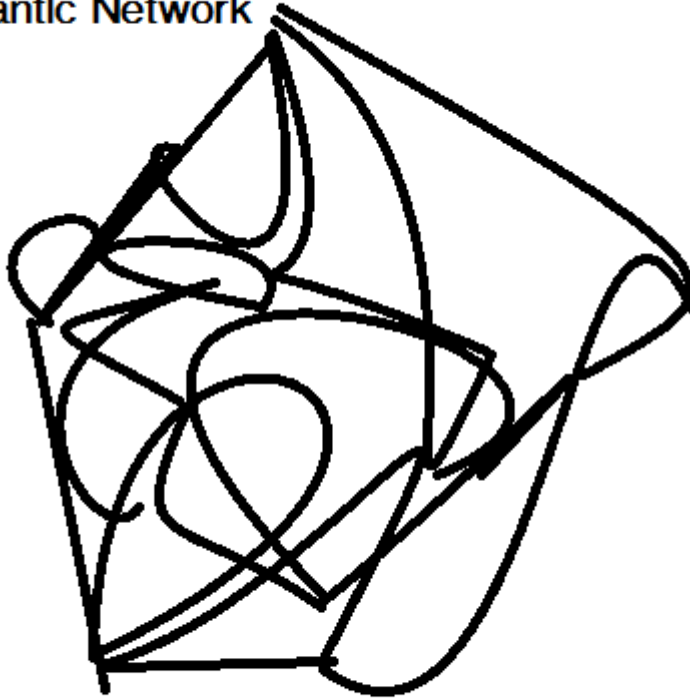
Semantic Primitives അണുസിദ്ധാന്തം



words as Atoms

2.Semantic Network

Semantic Network



ചിലന്തിവല സിദ്ധാന്തം

There are no boundaries for experiences, But there is no perfection either for them. Experience is like a great cobweb which is of very subtle smooth threads of timespace of consciousness , absorbing every atoms/droplets in air into its internal spacetime. As Henry James said in partial portraits. In this great cobweb everything is connected with every other thing. Like paths from one to another, like a network, each word is interconnected in the mental lexicon of our being. Definition of a network according to Samuel Johnson is something with a junction where 4 paths meet, and these are at equal distances . This 18th century description of a junction (The Brahmi script KA depicts this; Also the Chithrakoota stone , in snakeshrines of Kerala, and name of abode of Bharadwajas). Chithrakoota, swasthika, Mandala, Srichakra were such intertwined interconnected complex symbols used by Indians even before harappan times. This we had discussed in my book Sapthasaindhava , earlier. The interconnectedness of words happen due to linguistic habits of a people. Varna is a word intimately linked to word Dwani; So is the word Vasishta to word Arundhathi; Mesha is linked to word Vishuvath , Thula, Lanka, Aswain, Sun. These meanings developed due to continuous observation of ancient people , their experiences of climatic changes, sea travels , astronomy, music, mathematics, biodiversity and winds, and Ayurveda (medicinal plant growth). The 6 darsana, astronomy, etc were thus observed, experienced, codified , studied by subsequent generations of Vedic guruparampara for several millions of years . I was searching for this lost treasure of our culture and used Sanskrit, Malayalam and Tamil languages for this search and compared the findings with modern educational language , English .

To discover networks English language uses 4 main words.

1 co-ordination & co-ordinates

Examples- salt & pepper, left & right, hot & cold, red & white etc

2 collocation .Examples- Salt water, bright red (Two words found together)

3. superordination- Example .Butterfly (a stimulus word) and Insect (a Response word)

4. Synonymy – Example –Starve & Hungry (meanings same)

All colours, all superordinates are known as hyponyms .Blue, red, green are hyponyms of superordinates or hyponym of the word Colour (Varna). Co-ordinates are called co-hyponyms in English.

In one seasonal cycle, 12 months, the main festivals and rites in them, full moon days, new moon days, thithi and weeks, rainy season, sowing season, windy season, the rites observed in each season and day, the food obtained in each season and in each locality, their food value, songs to be sung in each season, time of day, Expression or Bhaava abhinaya of them, the physical, mental, intellectual and spiritual health due to such phenomena in each season, morphological and functional classification of everything- thus making a great chain (Srumghal/Sreni/Changattham/Changhala/Sanghaatham/sangham) or a guild in each Graama/village and the Kanasidhantha (Vaiseshika) formulated out of indepth study of each of these characterize Indian thought. All parts of it are derived from experience, logical analysis, with the help of a wellorganised educational language by the co-operative activity of the best brains of the land. Knowing this legacy of our ancestors and their humble, simple style of life, I had searched through the mace of their neuronal network of semantics, through each of the paths they explored, and my mental lexicon was formulated in this way. Thus my mental lexicon was slowly becoming the Lexicon of Indian Culture in my life's sojourn.

Logical relations:-

synonym
Donkey, Ass
പശുക്കൾ
കുതിര, കളഭം

Antonymy
jeeva=living (not
yet dead)

Incomptable
donkey, elephant

hyponymy
donkey=animal

Here mind is a living animal, the donkey. Not a elephant, not dead . Thus the 4 logical relations guess the animal to be a donkey, even without seeing it. Any person speaking any language should know the parts of the whole. Word and its meaning are parts of a sentence. The Letters (Varnakshara) and its order are parts of a word. A tree has roots, stem, leaves, flowers, fruits and seeds . One has to know each of these . Only then one know tree in entirety. But seeing just one part, one should not guess, as a blind man describes an elephant. This law is applicable to language and culture. To measure Indian culture , purana stories alone will not be enough. It cannot be measured with the incidents seen around in the present period alone . The worst scenario will be measuring Indian culture with Marxist theory alone. Study of philosophy, arts and sciences of India , logical lively culture being recreated within one's own mind and intellect , one may be able to protect the culture for posterity , at the same time recreating this ancient culture in the modern age. These are lessons I learnt from my experience .

Human body as a whole is studied now as specialities – separating and dissecting out each organ speciality from the whole human being and his/her problems. Parts are not the same as the whole. Adjectives in language are not free as names, either. An adjective can be ascriptive (heavy, light, short, long, cold, hot) or petainyms (mathematical genius, musical genius , scientific genius). A verb can be walking, eating or speaking. But there are different variants for each of these.

Walking can be that of a lame one , or a jumping one or beautiful as that of a swan. Eating is with or without chewing,swallowing, licking etc.Speaking can be a lecture,public speech, soft speech between two lovers, disrupted speech of people with speech disorders.

Doing an act in one special style is troponymy.Similarly for the function of “Knowing” there is a style of knowing an object completely, in a perfect style.All partial methods of knowing an object has to be integrated for this . Such an Integrated Sidhabhaasha is the Indian culture . This Sidharoopadarsana is shown to us by the world Gurus of ancient India.Travelling through this path our journey becomes fruitful and easier for attaining the goal.

Sound patterns:-

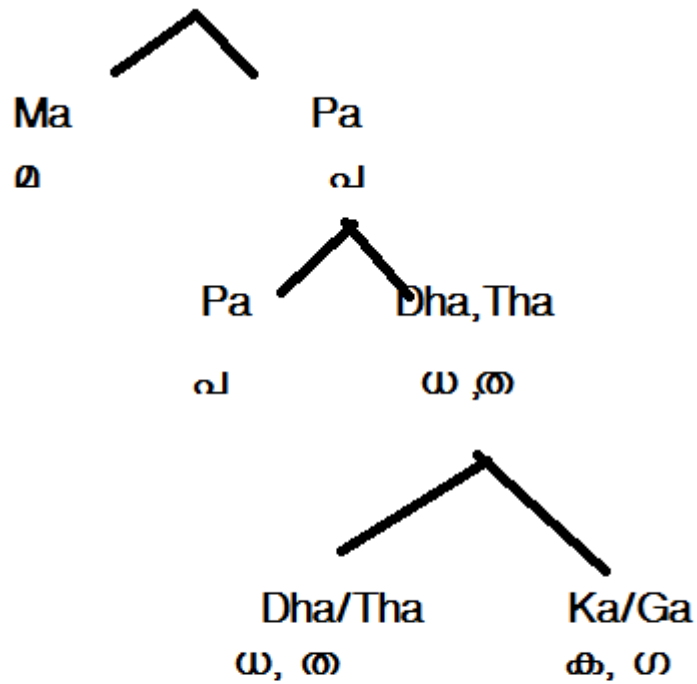
When we start thinking about the meaning of a word,sounds naturally follow.In a grantha, the alphabetic order of words as index is an example. But in our mind, it is not in that order , the word meanings appear.In it, pronunciation of words/dwani is important than the alphabetic order.In English language pronunciation of La and Ra are different as in Rid/Lid;Rook,Look.But in Malayalam it is not so. Ralayoabheda do exist.When we write these are different letters , but when we pronounce they can be same.For Vyanjana (Phonemes) a certain order is present in languages.In English the letters Pt will not come in the beginning of a word.But it comes in Greek language(Pterodactyle).If a person knows all phonemes of his language and their order,it doesn't mean that he/she knows all words in that language, and all pronunciations possible for it, or that when he/she thinks of its meanings meanings flow to brain quickly and easily.In some of our brains , some words are collected in excess and more powerful than a written lexicon.

Jean Aitchison calls a special quality of human memory as bathtub effect.When one is in bathtub, the head and legs are seen out, but not the middle parts.Like that, human beings have a tendency to remember the first and last parts of words and forget the middle parts .In an experiment of Harvard psychologists in their students this effect was demonstrated. What should a Guru do for making disciple remember this middle part ? Using a word in which the middle letter is always remembered , an anticlockwise and clockwise science is taught. By that word, that science is remembered. The first letter of the word AHORATHRA and the last letter are thus avoided , and the middle letters made the name of a science (Horaasasthtra which is the science of Time).Thus HORA or hour as is known in the west (from Greek word .)is a derivative of an Indian word, borrowed from India by Greek , without knowing its origin. So is Harijam (That which is born from Hari as the Chakravaala/Chakravalana is deflection of wheel) as Horizon used at present.

If word is a body, sound is its flesh and letter is its bone.We are able to measure the length of a word,number of a letter , orderly wavelike pattern of letters in a word etc and to remember them without effort in day to day use of language. In a modern English text , when we see the head down arrangement of a metrical tree (Chandovriksha in India) , it is very easy for comparing ancient India and Modern Europe. This is a new discovery for English language .Because English is a comparatively new language. Therefore , the branches of its knowledge are still young and growing. But in Sanskrit (An ancient Indian language) the chandovriksha with Guru,Laghy , the rhymes (praasa) they make and

kavya, gaana styles, sidhabhasha, and its Prathyabhijna (remembering again), the Sphota of consciousness are very very old. Therefore, Aitchison's view that words unlike numbers do not have an absolute value is a still growing branch. For us each letter has a number value, a fixed unit for pronunciation, and poet and singer creates chandas and raga within that Maathra/units. Scientists use word knowing the numerical value of word he/she uses. To keep this without change, and to protect language Veda introduced Krama, pada, paatha etc. Siksha is for preservation of language and its word, pronunciation and meaning. In the use of Brahmi and Kharoshti (to and fro use) also this Raksha (Protection) scheme is employed. Gurukulas were thus the living examples of Historical Linguistics. The ones who protected the history of human consciousness without being lost or polluted. While others were corrupting language with mixed and borrowed words, they kept the tradition with a zeal hitherto unsurpassed by any other University system.

It is like a magnet collecting iron needles, children pick up words and collect in memory. Daily, a minimum of 10 words are thus collected. For a two year old child 500 words will be known. A 3 year old knows 1000 words, 5 year old knows 3000 words. By 6th year vocabulary has 14000 words. By that time human child has learned to grasp meaning, classify, label, and collect in brain as packages and to use when needed. Therefore parents and primary school teachers are having very important part in teaching language to a child. Child first learns Naasikaswara (m) WHICH IS Madhyama. (Amma, Mamma etc). Then learns nonnasal stop Pa (papa, Appa etc) Pa is Oshtya since, air in nose is controlled and sound is produced through lips. The difference of it from THa (tongue touching teeth and making a sound) or DHa is then known. Pa and Dha are front stops. Once these are learned backstops (Ka/or Ga) is learned. Thus Ma, pa, Dha, Ga (ma, pa, tha, ka in Tamil) the first four musical swara are spoken by child. This is the same as the Pre-ordained Path Theory of Roman Jakobson.



Jacobson made this theory between 1956-1968. Thousands of years before that Indian Musicologists and linguists had done this. A person who search for and try to discover words, integrates three types of knowledge simultaneously- Semantic, Syntactic and Philological.

If prose is words in their best order as Coleridge said, poetry is best words in best order. The style of mind is of 3 models –

1 Sopaana/ladder of 2 types, vertical and horizontal



Sopana 1 vertical

ഗോവണി
സോപാനം 1

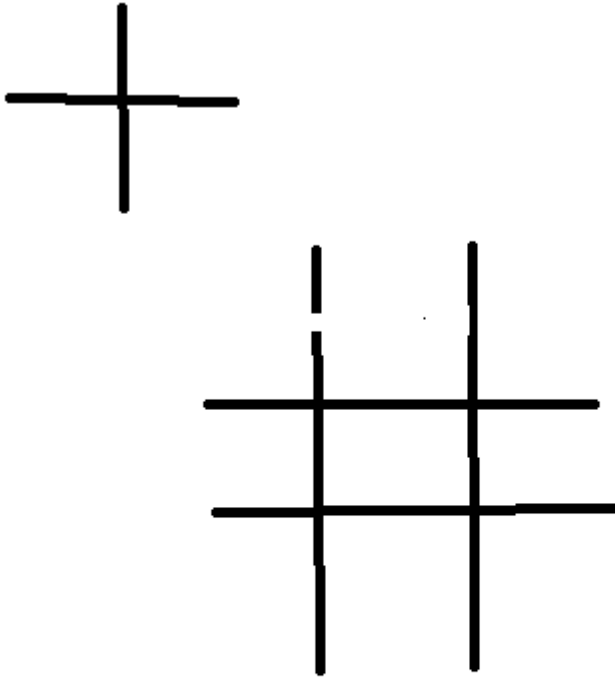


sopana 2 Horizontal

പാലം
സോപാനം 2

in this model , one has to take first step, then the next in order. In language context first meaning, then the sabda or sound . Using MUDRA OR SIGNPOST, THE ORDER OF PROGRESS CAN BE SHOWN HERE. When possibility of mistaking words with similar meaning and sound , one can use maathra and dhwani also in identification . Then both vertical and horizontal directions, parallel wave motion arohana and avarohana become

possible .This is Chithrakoota or KA model .



chithrakoota/KA model

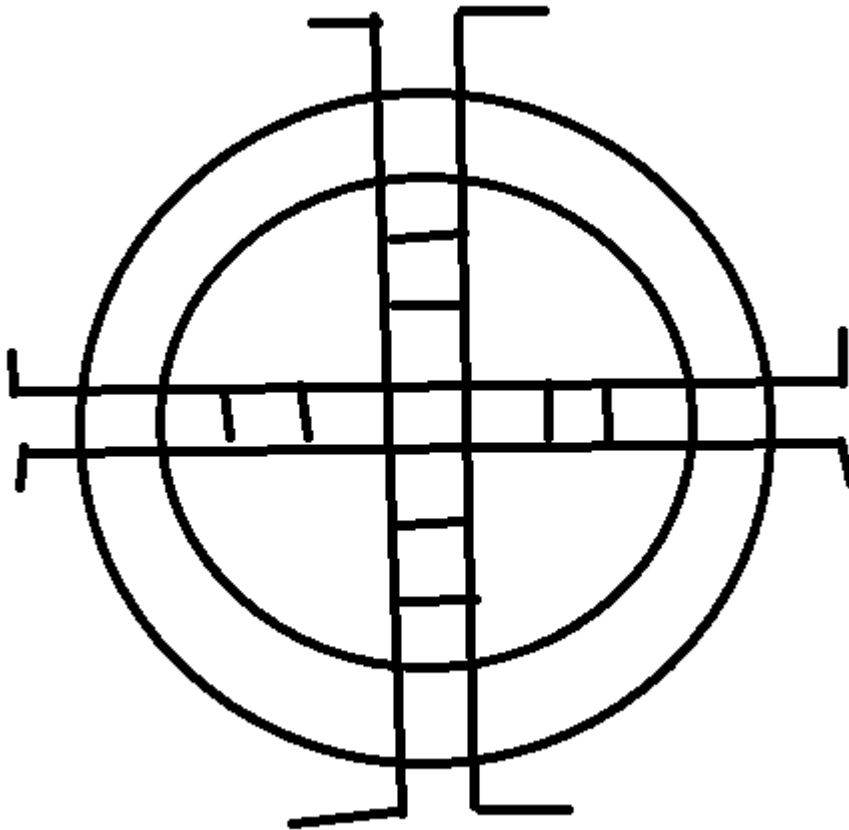
2 Waterfall Model

In a waterfall model ascend is not possible, only descend is possible (Avarohana) .It is a cascade model of waterfall or a sudden waterfall.But never an upward movement (Aarohana).With one sound, all meanings hitherto communicated are obtained to the mind in this model.Every stage is touching each other , overlapping, in continuity.

3.Electrifying model

Using both these (Sopana style and the cascading waves) makes Music.In music , there is no restriction as in a waterfall, since both arohana and avarohana are allowed as in Sopana. It is a continuous, ever repeating flow .Because of this, it has the electromagnetic field of a current .Thus poetry and music makes an electrifying model, the best, in the best order .It is a mandala.Not a line or a plane. Its arousal

and communication fields are the nadimandala, fields of nervous system.



When two people communicate, praana energy is interchanged. This interactive activation model is seen in the relation of guru and disciple. By this process Vidya is transferred to generations. The precise reason of avoiding nonsense words and fusion words in communication is the careful way of keeping language and culture pure forever. This care must have been the reason for the gurus and disciples to lead a solitary life, keeping themselves away from people who carelessly use language (words) and corrupt it. The Interactive Interaction models of Gurukula is complementary to all our knowledge about our brain. In a mandala with numerous nerve cells and synapses, even a slightest fusion word/impure practice of sound can produce a communication pattern which overthrow the systematic order so strenuously kept for generations. The accuracy may be lost. Pronunciation, word meaning will be corrupted. All the restrictions in gurukula universities had been to prevent such mixing and pollution of language. For a person with soul power, intellectual and emotional powers are obtained naturally. But for one without spiritual power, it is difficult to acquire them. Revelation of wisdom is sathik. Its opposite pole is thaamasa. Two poles cannot meet, or touch. This is the meaning of asparsayoga. It is based on quality, profession and not on caste/creed. Unless we recognize the true meaning of words like this, we are likely to continue the mistaken notion that ancient Indians were a pack of fools following primitive customs of segregation, as we are today. If we want to correct the faults in our history and in our personal lives, understanding of this truth is essential.

At first glance we may feel that identifying words are easy.

1.The listener records in mind what is heard.

2.Looking at the collection in mind,selects the word needed as if from a Dictionary.

But that is not a simple task as it seems to be.Why ? The conversational dialect is speedy and one cannot pick up each word leisurely and store it.For this , I did an experiment fro 75-80 (5 years) .When we travel along a road, try to collect each number (registration) of the passingby vehicles , add them and decide whether it is even or sigle. Almost a similar procedure is done during a conversation , by the mind to collect each word and find meaning and collect. And this is not a conscious procedure either.So that it is all the more difficult. In one second brain can differentiate only 10 sounds at a time (Leiberman .AH, Harris K S, Hoffman H S Griffith BC 1957.The discrimination of speech words and across phoneme boundaries .J of Experimental Psychology 54:358-68 .Q .Ch 19;pp 227 J Aitchisen)

2 The changes in sounds . The same sound artificially changed , were recognized as different by the listeners. Pa,Ga,and Dha (the sounds based on the following one) were thus recognized differently.Part of a sound (sound segment) cannot be separated completely even in a laboratory.A sound is merged with the sounds on either side of it. (Leena state).Europeans compare it to a icecream kept in hot oven. Indian sages thought it as the dwani and prathidwani (echo) merged in silence of the icy heights of Himalaya.Ice is in both similies. But , it is not sweetness of the tounge, but the sweetness experienced by the ears , which is being compared. So the sages have a better similie. When 7 swaras in 22 places are heard , in between are numerous sounds merged within , and a good singer and listener experience the sweetness of that silent merging . But an ordinary person does not experience this. This is true of even in a conversation/speech. It is the creative listening power of the listener that makes a difference in experience.

We can separate swara but not the Vyanjanas. Record only Pa (Panchamam) on a tape. Pa..pa..pa..pa...

If we cut tape from the side of Vyanjana we ultimately get pa,aa,pa,,aa aa,aa,... like that .But if this is done from swra side we will not get this.we get only pppppp.Swara is therefore Uyir (Jeeva/life) and vyanjana is mey (body) . They didn't use a tape but demonstrated this with own sound experiments .The accents of men are very different. The experienced world is full of sounds. In this sound environment , many words are not heard by our ears. All these are reasons for saying that it is not very easy to collect and understand all words in a conversation.To record a whole communication within a listener's mind , from it select needed words whenever necessary at short notice,(each word, each song,each raga) cognize and enjoy it , respond to it is therefore a complex procedure done by human mind. Usually people understand another's words by mere guesswork according to Aitchison. A good will use Manodharma and pronounce same word differently to make different bhaava.rasa , or use a different sangathi to make the raga more beautiful and makes our brain stimulated by such manodharma to enjoy the music more.

The listener analyses the sound waves reaching his brain , but here dissection of each sound and matching with a lexicon is not happening as the scholars of western world think,and there is an

intermediate stage where swara , meanings and sound waves merge and that merged sound is translated into our brain for enjoyment .In the 1980's European scholars found out this secret . It is for this , swara and vyanjana and their kramapaata padapaata and jadaapaata are introduced. To learn language and the learning of language , modern linguists have started learning for the last 100 years. The newly discovered laws of these scholars are already present in Chandas,kalpam,vyakaranam ,siksha ,niruktham of language studies of India. When a truthseker uses the tools of both western and eastern sciences , finding analogies and comparing them is a natural phenomenon.

Now we understand that the two opinions about cognizance of sound waves is due to different abilities of individuals. And this difference is due to the frequency difference between sathwik and thamasik quality people and the people in between. There are several reasons like the language itself, its use, circumstances used , accents and styles ,mixed and fusion languages etc also. With all these differences, the rhyme of all languages seems to be universal starting point . Even in an advertisement , we use these rhymes to attract audience/customers. Poetry and music use rhymes more than prose. In India even sciences (Jyothisha,Ayurveda) were written in beautiful poetical metrical verses so that people were attracted to these sciences. The boundaries of not only words, but also of sciences and arts merge and integrated in such approaches. Listener expects the continuity of words and letters which are soft, sweet and simple making a rhyme,musical quality to please his/her ears.Sanskrit poetry gives that to the scientific texts. By a stressed syllable , a listener never loses its importance .By stressing a syllable it is heard properly and correctly .The concentration of listener flows into that immediately . A good teacher, orator and musician use this technique while rendering his/her professional expertise.Rhythm and phonetics are thus corollaries to each other .

Chapter 2 The first Idea

When and where and in whom was the first idea originated ?How did human race get ability to think and use symbols for communication? How is it maintained ? Even a new born baby has expressed such abilities and therefore scientists like Susrutha said that human beings have a carry over of memory from previous lives and previous incarnations. He called it Prathibha as a prathyabhijna (Remembrance again).For this to grow and express in full scale, environment/soil should be fertile and a good learning atmosphere has to be provided. If these are provided , any human being can grow and evolve into a genius .

Genetic mutations are mere chances and environment is unpredictable and hence modern scientists of Theory of Evolution think the selection of best genes which have great adaptation potential was done consciously . This selection of genes and environment characterize the Adivasi folk of India. This shows the Adivasi of India was aware of a genetic change and its role in evolution and the idea of evolution originated in their practices (hence in their thought) millennia back.This practice of Indian ancestors show that ideas of education, evolution etc started in Indian subcontinent , before that occurred In Africa, which remained a dark continent till recently.It is the learning experience which stimulates our genes. They stimulate our biological neuronal pathways and create ability for long term memories. (Eric Candall 1989 Genes,Nerve cells and the remembrance of things past .J of Neuropsychiatry & clinical neuroscience 1:103-125).This process happening in an individual , happens in human race as well. That

is how Gurukula created traditional knowledge systems and taught them and protected them for generations. Such a long term memory of ideas, philosophies, sciences, arts is present only in Indian History. The long term memory of Indian people extends millennia back, and the genealogies of sages, kings and royalty show this.

The bioenergy in genes is essential for learning and cognition. The insemination of learned people through marriages started in India on this principle. A sage like Vyasa, Deerghathamas, Parasara and Vasishta were chosen for creating progeny. The selection of virile Rishyasringa for princess of Vaisali also is on same principle. In a Gurukula, an enthusiasm to learn, intellectual ability to cognize, humble and simple way of life and values were important than economic or administrative power and status.

1 High analytical thinking and strict schedules which are followed meticulously are basic units for Reflective thought.

2. These cultural practices were present even in pre-Homo sapiens stage, in Indian subcontinent.

3. The basic rites are present in monkeys. But well developed rites are seen only in humans

4. When cultural abilities become habits, rites are transferred through several generations in millions of years, emotional and intellectual development happened in humans.

5 Such transfers depend upon intellectual transfer, not mere gene transfer from individual to individual.

6. The fossil records, habits of prehuman and nonhuman primates and their character prove this theory (

Family, race, nation are bigger and bigger groups in order. Several nations make a world order. India could see this and proclaim that entire earth is our family (Vasudhaiva kutumbakam). Only when a people start feeling that entire world is one family, survival of the fittest becomes perfect. No one destroys the weaker sections then. Mutual empathy and trust, co-operation of all, make nation prosperous and healthy. A cultural symbol, like language, is a tool for achieving this. Through that tool Gurukulas transferred culture to generations. Individual, society, nation and world are living in peace and bliss, in perfect harmony in such a state and perfect survival and evolution happens for human minds. By intellectual and emotional communication, through symbols of science, philosophy and music, India was trying to unify entire human race in its fold of Love and Advaita. That is the secret of survival of Indian culture. When other cultures of the world, which believed in destroying nations other than itself, did not survive India survived to this date. This is the real survival of the fittest.

Origin of symbol:-

The word Maanava (Manushya) is derived from Manu and Manana, the first ever man who could do Manana or Reflective Thinking. Through symbols, reflective thinking and communication of thoughts happened. By making symbols for reflective thought and communication Man evolved one step up from other animals. Thought and Sruthi are symbolic representation of a Darsana, and uniting that verbal

visual image with others of its kind , systematically organizing them and cognizing. Thus an idol or a symbol is something which gives help for cognition (Grahana) in a special way (Viseshena) Therefore called a Vighraha (Vi the first letter of Visheshena and graham the first part of grahana or cognition).t is a special method of communication of an idea. An idol has more than a thousand names (Synonyms) and understanding the meaning of each , one grasps the entire meaning of cosmos, existence and oneself. Thus the cosmos is recreated within mind.

At the plane of reflective thinking , “ Why do I think ?” Why do I think in this special way ? are questions asked by oneself about one’s own thoughts. Thus own thoughts,mind,intellect ,actions and the dharma of world around are analysed .This analytic process is created as symbols of various types and transferred to successors by Gurus.Each child pass through such stages in life .When they falter in their first steps, as support to them , symbols of the ancestor’s culture help them.These educational methods of ancients of India are thus to be studied not as myths but as symbols for evolution of human mind and thought. These were created while human race was still in its infancy in other continents make it all the more important in study of evolution of human consciousness.Consider the symbols as historical documents of emotional and intellectual growth of a people .The various arts and sciences , literature sources of Indian culture are to be viewed in this light.Instead of that people behaving as if they are supree court judges passing on a verdict of right or wrong on SriRama’s actions or SriKrishna’s actions looks childish in their behavior. About 10000 years ago what was right and what was wrong ? Can we judge Rama for his actions 10000 years after he did them, without knowing his environment and his time’s ideologies which differ from ours ? Moreover , people who judge him for a 1% wrong , are doing 99 % wrong and how do they get the right to criticize others without correcting themselves ?

The ability to preserve symbols is hardwired in our brains. An infant is born with a blueprint of it .Human sound,songs,languages are needed for development of that blueprint .There are two questions anyone would like to ask.

1. Why does the two children born of same genes , grown up in same home and school environment differ in behavior, character,abilities when they grow up into adults.One child of the same parent become poet,musician ,quiet and reflective and another become least bothered of such qualities .Why ?
2. Even if we give all care and nutritious food, why does children growing up without protection of a loving mother become less communicative in languages ? Why do they feel difficulty in communicating with society ?

Answer to the first question leads us to a social environment beyond the primary group and genetic environment; a cosmic environment which is beyond the society environment and which brings us to the field of Astronomy and its effects on biological fields; and to the Theory of Prathyabhijna of Prathibha which concerns with the carry over of tendencies and their memories beyond this life .This is the Theory of Punarjanma or Incarnations in Indian thought. Answer to the second question leads us to the Mother and Mother toungue , its love and concern in development of a child’s mind and intellect .

These are the causes which allows man to make symbols ,communicate with others,and have different ratios of reflective thinking abilities. Thus spoke the first ever architects of Indian culture. If the creation of symbol is prewired in Chomsky's system it is from experience for Jean Piaget.Indian way of scientific practical method combines both, and is yet beyond both these concepts.

How did the cave pictures and tools suddenly appear in caves by about 30000-50000 years BC or before that ? The people who made those symbols might have had the thought/idea that they should engrave them on a surface which is eternal for the symbols to be conveyed forever. That means , the idea and the symbol have originated several thousand years before they first appeared in cave walls . Even without computers,books or a script people were communicating through symbols of various types and through spoken languages. When was the timespan of Sakunthala who made a first love letter on lotus leaf with her nails ? It must have come before all the Harappan,Saraswathi-Sindhu,and Bhim Bhektha symbols and cultures . The first symbolmakers were naked, and childlike Kumaras who roamed in forests as Aranyakas /Rishis says Indian scriptures. This must be true and has to be believed from what evidence we get of the pre-paleolithic human habitats.

The co-regulated reciprocal interaction between mother and child over, the child comes to Gurukula at 5 years and the Kumara as Guru is 5 years old .The first forester/wanderer/hilltribes as child/sage were the first people who made symbols . Later on , traditional Guruparampara protected and recreated them several times. If we ignore this legacy as myth, or religious fanaticism or Brahmanism, we will be negating our own self, our own cultural genetic intellect .Left of that legacy, what are we , except a pack of animals with no culture ?

Early human beings did not segregate Karma from image.When it was segregated,the image was used for thought analysis and for problem solving.Woman,man and child are the trinity symbols which make up a single symbol Family/Home whether it be a cave or a modern flat.

Kumara/child is thus a continuation of a Mother Goddess and her consort .Several families make up a race, a kulasangha (guild),a village,city ,nation and world of the early ancestors. These relationships , the emotional attachment of each to its roots , the idea of a world Nation made cults and mother and child became prominent symbols in the perpetuation of human race. Brahman is both male and female simultaneously. Therefore a Kumara , son of Brahman is equivalent to both male/female aspects.

What is the first idea of a child ? Is it water or food, or a combined water and food which is represented by breastmilk of mother ? Through that he/she recognize mother,her love,touch,form,voiceprint etc. Before birth itself the sound of mother reaches child through the amniotic fluid media.The sound and breastmilk of mother was thus identified and Saraswathy , a symbol with literature and music as her breastmilk was the idea of the Mother Goddess of Saraswathi civilization of India. Since Sapthamathruka seal,Pasupathi seal in yogic posture are present in Harappan times, and dancing girl idol is seen , even before Harappan times the communication through symbols had started in India. The articles and objects obtained archeologically are signs of the social co-regulated emotional interaction of our ancestors using music,arts,architecture,sciences,philosophy of Yoga and several other branches of wisdom. If these articles were made in BC 3500, the genes of the people might have been more ancient

and they might have used the same symbols thousands of years back and such figures are being found in cave paintings. Those who say that India had no history before she came in contact with Europe have lost the synapses for this long term memory. Even the short term memory synapses are being slowly degenerated in such people. Loss of memory is loss of culture. Since Paleolithic and prepaleolithic India had symbols, and symbols evolved into languages (Greenspan and Shanker) , we had a spoken and written language right from Paleolithic age. Learning is a lifelong meditation ,a Thapasya.. A people who did such thapasya for generations in Gurukulas for several millennia from prepaleolithic era have left for us their footprints on rock surfaces,caves ,ancient temples,literary works . Without knowing them we cannot know our own culture. By negating them as mere myths, we are negating our own genetic ability for logical thinking and analytic science .If our ancestors had no genetic power for logical analysis, we too are unlikely to have them.The very fact that we have analytical powers, is proof for our ancestor's genetic abilities. Archaic modern man and early modern man (6laks years BP- 60000 years BP) had all the talents of a modern man in his/her neuronal network for using symbols,language and tools. Drawing parallel signs , one of the early symbols , is seen from 1.4 to 1.2 million years ago. Cupolas , I had already discussed earlier. Colour pigments were used by cavemen of Zambia 350000-400000 years ago. That means Homoeructus man had learned symbols,drawings,paintings,abstract thoughts , communicating emotions etc. In individual human history ,a child of 18 months to 2.5 years can draw,paint and communicate through symbols in the same way.

Homosapiens (130000 years) appeared after Homoeructus or simultaneously with Homoeructus and possibly they had gene transfers . It is postulated that an ancestor from the subcontinent using a boat/ship reached Australian mainland 60000 years ago.To make a ship/boat which can cross the sea, the process of crossing the sea itself,control of winds, knowing direction using a starwatch at night and compass at daytime,and embarking and establishing at a new surrounding needs many types of previous exposure to sciences and knowledge systems. And this individual had that even before 60000 years.That means he belongs to a people/nation familiar with such knowledge systems even before his voyage time. A human race which originated 1,30000 years ago, crossing sea and reaching a new continent in 60000 years BP , must have observed monsoon winds , currents of sea,building materials for a strong boat/ship,and the stellar maps with access to a compass which show directions .This is the legacy of the South Asian South Indian seafarers , which I had explained in "Corridors of Time".Connecting ideas together and logical thinking –(The 6th stage in human evolution and development of consciousness) thus originated in India. The 7-8th stage called Magdelenian period (12000-8000 BC) by western thinkers is the stage of struggles with hard surroundings,making houses,dress,different types of Vaasthu/village constructions , making of kitchen utensils, making animal hide clothes etc. It is during this time human habitats appeared on earth and scientists think this happened in 8000 BC . We know , in India Mehrgarh period is at this time and it is a city/urban phase after the village phase described in the classical Magdaene period .Stage 9-10 called old culture period (3500-72000 BC) was characterized by civilian duties,rights of families , war and its strategies in Sumeria .In India , these stages preceded that of Sumeria and Babylon, because even in BC 8000, Mehrgarh period such laws

were existent and king was expected to do Dharma and a organized Government machinery and sabha,samithi etc assisted him in such duties. In India:-

1.BC 58000+70000 (128000)years ago a human race started observation of nature and climate,biodiversity and slowly utilizes forest and agricultural goods for a selfsufficient economy, trade and commerce .This is almost the same period of origin of Homosapiens (130000 years) .That means Indian history is as old as the history of origin of human species.

2.BC 58000-60000 An ancestor crosses sea and reach Australian mainland (Mentioned in Mooshakavansa Kavya of Athula , a 10th century Historical text in Sanskrit , from Kerala)

3.BC 8000-7000 Mehrgarh period of urban city dwellers

4.BC 3500 is the early Harappan time and Post Saraswathi culture period.

5.BC 3104 The well established port city of Dwaraka, controlled by Krishna is lost in a deluge.

When we compare the timeline with that of Greece , which is about 500-300 BC , Greece is the infant and India is its great grandmother. The city state (Polis) was formed only very very late in Greece compared to the urban centers in India. And this corresponded to the period of Sathakarni, of Gouthama Buddha and later to Aristotle,Alexander (who visited India). Even during Alexander's period Neither Greece nor any other European people had the ability to cross oceans with help of Astronomical observations. For that , they had to wait till Vas Co Da Gama , another wave of European traders which happened 1800 years after the first Greek Visit to Indian soil. The transfer of ideology and thought of India, the heresay of its wealth, selfsufficiency made the west search for India , both during Aristotle's period and during 14th century. If these historical evidences are not enough proof for India's antiquity what else is ?

Primates have infancy and childhood till 6.5 years . (Refer B H Smith 1991).In Smith's early essays, childhood is from birth to the eruption of first Molar tooth (In Years) .

Species	Molar 1	Molar 2	Molar 3
1 Maquake	1.4	3.2	5.5
2.Baboon	1.7	4.0	7.0
3.Orang Utan	3.5	5.0	10.00
4.Guerilla	3.5	6.6	10.4
5.Chimpanzee	3.2	6.5	10.7
6.Homoeructus	4.5	9.5	14.5

Relationship between eruption of teeth and power of Cognition(Ref: Parker &Mc Kinney .Origin of Intelligence 1999. Page 227)

	Highest level Achievement	Highest sensorymotor Achievement	Highest preoperational Achievement
Monkey	Sensorimotor Upto 4-5 th stage	After last deciduous tooth	Before first Molar
Great apes	Preoperational upto Symbolic stage	Long after last deciduous tooth	Coincident with 3 rd Molar
Human species	Formal operational	Coincident with last deciduous tooth	Coincident with second Molar

Ontogeny of Cognitive Development :

Man	ESM	LSM	EPO	LPO	ECO	LCO	FO
Homoeructus	ESM	LSM	EPO	LPO	ECO		
Great Apes	ESM	LSM	EPO				
Maquaquae	ESM	LSM					

ESM: Early sensorimotor

LSM:Late sensorimotor

EPO:Early preoperational

LPO:Late preoperational

ECO:Early concrete operation

LCO:Late concrete operation

FO :Formal operation

Paleoanthropologists discuss the racial continuity of humans to even *Sahelanthropus tchadensis* (7.6 Million yrs ago) and *Orrorin tugenensis* (6 million years ago). *O. tugenensis* was a forest dweller which walked on two legs and therefore the theory of Hominids acquiring two legs for walking in the plains is being questioned. Since *Australopithecus* knew use of stone implements, it is assumed that they would have known also the use of tools with leaves and bark, trees etc. Using branch of tree as weapon, even a chimp takes out termites from its hiding place. It breaks fruit and seed with stone and tree trunk, collects water in leaves, keeps tools in a separate place (as storehouse) and all these are present in *Australopithecus* too.

Primatologist Richard Wrangham thinks in societies which give importance to protection of women and think women are very important in society harmony prevails and such societies survive than male-dominated societies. The matrilinear system of South India was devised for survival of races and in this women and children and learned scholars were given importance and protected. Bonobo communities show this female-dominated harmonious society and this is the basis of their survival of the fittest. A comparative study of Indian situation is therefore warranted.

Bonobos and *Australopithecus* live in small groups of 60-70. This is a sign of advanced social, cognitive, communicative abilities. When more people live in a same locality in a forest, fruits, and nuts finish within a short period creating shortage of food. This is why they separate into small groups and live at a distance of about 100 yards or so. The arrangement of early hamlets/villages/and even urban centers was done according to the same principle. This also allows protection of entire race from invaders. Only one hamlet is destroyed and others survive. The small groups which got separated from a locality due to increase in population, reach the original center, at some stipulated time so that the center becomes a meeting place for sharing experiences. That is how a central place as a temple/educational/commercial center developed among early inhabitants. The path of each group while travelling is marked with a sign/symbol so that the successors know the original path and such traditional paths became the roads of the group. Thus great apes (Bonobos) were having almost same behavior as *Homo sapiens*. The facial expressions, voice, body languages, lawmaking, lawbreaking and law protection by punishments and rewards, obedience to law—all emotional and logical

communications for survival of the race started with great Apes. They were co-operative and successful in their life in a way.

Body, brain structure of Homoeructus (2 million-400000 years BP) was similar to humans and they survived the maximum period on earth. Found in Indonesia, they, as described earlier came from India and South East Asia. Thus one can understand the folly of thinking that a Homosapiens ancestor, from Africa, on a fine morning decided to walk across landroute carrying his/her tools and reached Indonesia, Australia, without even touching Indian mainland. The very fact that an African ancestor reached India with his tools is thus discarded. A biodiverse environment with lot of monsoon rainfall, India was the original home of the great apes and of Homoeructus and other ancestors of humans and they had a continuity of tradition from India to Indonesia and other places on the globe.

Toolmaking:-

Homohabilis knew technique of making stone implements. 2.5 million years back these tools were made. Hitting a stone piece with another, they make sharp pointed flakes. They use flakes to kill animals, remove bark of trees, to dig out roots and tubers from earth. To use a flake, lot of experience and handwork, memory power, planning ability are required. Whether one gets human skeleton or not, in places wherever we get such tools, it is evident that human beings lived and used the stone tools. (Toth N and K Scheik 1993 Making silent stones speak. Human evolution and the dawn of Technology New York. Siman and Schuster). In rainforests of Ivory coast a nutcracking tool site of Chimpanzees was discovered. With a stone hammer, which is 15 Kg heavy, chimpanzee hit a nut keeping it on a wooden piece and take out the seed. Chimpanzee collects stones and panda nuts even from 300 meter away, to the site where the wooden piece is kept. Cracking the outer wall, without damaging the inner seed, a certain force is needed. Each chimpanzee gets trained in this for 7 years, before they become adepts in it. Even while sitting on mother's arms, the child chimp starts striking with its small hands using tiny stones, imitating its mother. Mothers do it in slow motion so that the infant learns the technique, and adjust the angle of the wooden piece for the children. (This is the first lesson). This educational method is considered as a result of continuous, strong, fixed society relationships for several generations. Indians have a tradition of keeping an inclined stone piece, sometimes carved, in a special corner of temple (Usually SW) and breaking a Coconut on it and taking out the kernel. This is for pleasing the God/Goddess of Vidya. The Vettuva/Veta tribes of Kerala keep a long sharp wooden piece in one part of the field, and bring all coconuts to that spot, and break them one by one, and take out the seeds. When did this habit start? From whom? The generations of Riksha/Kaapeya (Jambavan, Hanuman races) have given us the archetypal memory of their racial characters.

In Kenya, a toolmaking factory of Homohabilis was discovered. It was 17 sq meters and 2.34 million years old. The tools were made after testing the rocks and verifying whether it was fit for toolmaking. Flakes were taken from core of rocks. The speedy carving, the direction of doing it, the tools used for making flakes, knowledge about the rocks and its characteristics are remarkable. The tools were mixed with bones of fish and animals and therefore the use of tools for cutting flesh was assumed.

The first use of fire, searching for novelty as in today's human beings, strong social ties, complex and conscious style of toolmaking are seen in Homoeructus. The tools of Homoeructus are called Acheulian tools. The first Homoeructus bone was discovered in Indonesia. But several achulean tools and toolfactories are discovered in India. That shows Homoeructus lived in India and flourished well. The Indian ancestor Homoeructus carved stone from both sides and made a symmetrical cutting edge. Without strength and experience, no one can carve out such stones from great Rocks, and make a bifacac tool, and then make its edges in required shape and sharpness. Acheulian stone axes (Hand axe) were used not for killing animals, but for making fodder out of branches of trees in forests. (The white axe of Parasurama was derived from such ancient tools). Yajna, power, economic status were represented by the white axe carved from white Rocks. Making branches of trees into fodder was essential for making fire and for Yajna. The Achuelian toolmaking survived until the genes of Homohabilis and Homoeructus survived. It still survives in our lives. This is the anthropomorphic continuation of our genetic cultures still visible in India. The survival of culture happen only when knowledge systems are shared for generations of people. Only by knowing this, we know each other, co-operate and love others, and live in harmony with all beings. Emotional attachments and security of a culture are basic units for survival of a race. Survival is a state of Sthithi (Protection) which is protection of Dharma and is Vaishnava. It is neither creation nor destruction, but protection of tradition and of races which is meant by survival of a race. The eternal, most healthy state is the protection of dharma, of all races, of nature. Once we internalize this truth, Indian philosophy is easy to understand. The eternal Dharma of the east is that, love, compassion, Dharma, and teaching of Dharma for generations through Gurukula, is essential for the Survival of all races, not only of the fittest race. In the educational method of this the 64 arts and sciences, and philosophies of the land were created by Gurukulas of yore. The language and music of India is to praise this faculty of human compassion.

2 lakhs years ago, Homosapiens were created not by a sudden genetic mutation; but by a gradual, orderly, development of consciousness and its transformation. A child is born, grows up, lives and dies. In that history of expansion, we have the signs of the history of all our archaic history of human race. Scientists have observed Chimpanzee's approach to disease, death, medicine and social ties and emotions related to these. These are similar to that of human beings.

Templeton's view that African man had travelled several times from Africa and created races everywhere including Australia is a farfetched possibility. (Templeton A. 2002. Out of Africa again and again. Nature 416.45-51). Africa remaining the dark continent even until recently, this is not feasible. The fact that Mungo man of Australia is having a genetic structure older than the other aborigines of Australia; Templeton's view that Asia, Europe, Africa had sexual relations several times for last 6 lakhs years, and therefore African man has travelled several times to these parts; The Archaic homosapiens who appeared first between 6 lakhs to 1 lakh years has a structure between that of Homoeructus and Homosapiens; an archaic Homosapience infant born 1 lakh years ago, having more knowledge for creating emotional symbols and teaching it, and environment for learning it, than a child of same race born 6 lakhs years ago – The sudden mutation is not likely. And if, we displace African

ancestor as Templeton postulate, and think of an Indian ancestor again and again , then it has more feasibility . Because an Indian ancestor could have travelled from the subcontinent as a seafarer ,several times between the 6-1 lakhs , and the races might have had contacts permanently is likely.During the 5th stage archaic homosapiens did not stop making acheulian tools. They improved the technique and subtle ability to make standardized tools developed. This period is now called Mousterian Tool Industry (from 2 lakhs -40000 years).The time and effort to make such tools were more than the earlier ones.

Tools with sharp ends – For hunting- Soola (Trident),arrows,lancets etc.

Tools to dig – Koonthaali,Kaikkott type

Tools to pass through soft objects –Needles

Tools for churning/turning movements-Drills

Tools for leather industry –scrapers

Tools with handle- knives,swords ,axes (Some of them with beautifully carved handles)

Apart from these tools, special implements for hunting,wars,kitchen,house construction,use of fire,making of clothes,jewel making etc developed during this period. At this time , man started to pave stones on floor of caves where he dwelled and prayed. Started to make homes outside caves on plane surface .Fire was being used for cooking,Yajna and for making of tools. Fire worship in India,yajnavedi construction,use of deer and tigerskin , measurements and weights,all developed at this stage. The race of Kaaru (artisans) who make implements and the race of Chaaru (Chaarukala) who use them were both parts of the same society,same race ,sharing same ethnic and cultural heritage. 3 lakh years BP homosapiens started to bury their dead. That shows the abstract thought of death and birth started by that time. The Pithrusradha or Chandrayana of India is as old as that period. There are no burial sites in India which show the Neanderthal/Pleistocene habit .The reason must be the special climate, and the process of burning on a fire and collecting only fragments of bone . Sites with entire bone is rare in India.

Instead of burying man and wife together as Neanderthal did, a process of Sathi was done in india because the rite is different. But this was not a universal rite and only among Kshathriyas, that too during wartime when enemy is sure to take over, the rite was done by women. Giving a morsel of food (Pinda) to ancestors,keeping a piece of iron as symbol of weapon of the diseased in the pyre,planting a fruit tree at site of pyre and worshipping it as Athman of departed ancestor and offering a lamp to it daily are seen in India as the continuation of archaic hominids, Pleistocene,Neanderthal ancestors.Neanderthal men,African early modern man similar to Neanderthals knew method of making beads. Japamani or beads for doing counting during reciting God's anme was known to ancient Indians and it was part of our Industrial life. This beads were found in ancient Spain and Africa showing that Indian beads were popular beyond continents.

Early modern man made colours from mixtures of iron,manganese .They exchanged small stone objects which will survive several thousand years. The creation was done by collecting locally available things. While socity guilds in Africa were small,simple with sparse population, that of India was big,complex and

made of several members having welldefined functions. In Africa objects made of teeth and bone and of conches were not made and shared on barter basis but we do see this among ancient Indians. The knowledge of language using symbols is restricted in Africa while it is very extensive,welldeveloped in india . Lorence Braham who discovered colour pigments in Zambian cave of 3.5-4 lakh years (In May 2000) says :- “ If we link colour pigments with group activities such as rituals, then language is part of the equation”. Rites are based on the process of sharing knowledge , rather than the event or its importance. For it, the time,laws, cooperation of society,orderly action etc are to be communicated. Therefore,rites and language are interrelated. One is revealed through the other. The only relic ancient man leaves behind of its existence , is the colour. (Varnam). In India Varnam ,language,Dwani are related to language but also to Colours and to Varnaasrama Dharma of different lifespans and professions. Thus a colour pigment as part of an ancient rite is symbolic of all these in India.

Why are Europeans attracted by the theory of Out of Africa Model of a single father?

1 Because they are lead by the idea that a single gene from a single race , should defeat and win over all other genes and become the Fittest that survived , as they understand Darwin’s theory of Evolution , in this narrow sense.

2.Biblical story of Adam and Eve says entire human race is from a single fathe rand mother.So,whichever scientific theory has to conform to this story for approval from Biblical readers.

But then in India also the concept of Prajapathi and Satharoopa is there. Is it not a single father theory ? Yes. But, the son of Brahmaprajapathi ,Kasyapa,Mareechakasyapa did not become father of only human beings as Adam and Eve did. Kasyapa was father of entire creation, including reptiles,animals and birds.Thus it is a symbolic concept of entire creation being one ,rather than creation from a single human father.

The difference in cognitive power of man and other animals is only in degree, as we have already explained . This is against the Out of Africa Big Bang Theory. The continuity of karma(action)Manas(mind)budhi (intellect) of all creation, of all living beings is what is meant by the Indian theory . The same idea is seen in the following.

Russon A E;K.A.Bard &S T Parker 1996 Reaching into thought.The mind’s of the apes. Cambridge ,Maes;Cambridge Uty Press; Hanser .M.1996.The evolution of communication .Cambridge .Maes;MIT press

Except ability of speech , other powers are present in all beings in different degrees of development.Therefore, the humaneness of human beings is his/her language/literature/music /artistic symbols.The view that an African ancestor suddenly discovered and developed Vaikhari during Pleistocene period in the Out of Africa Model is not feasible and no answers to this sudden development is available scientifically. From Decart to Chomsky a long list of philosopher thinkers have spoken about this. Chomsky’s Theory of Generative grammer contains the peculiarities of the creativity of human languages.To make endless new sentences and the cognitive power for that is present in a human

infant's brain which reacts in a complex way to the mother tongue and creates a natural grammar out of it.

The Out of Africa theory was supported by scientists quoting the view of archeologists about the planning ability of ancestors who reached Australia, crossing the ocean, 60,000 years ago. The scientists of this theory argued that such planning ability can happen only with a mutation. The sudden appearance of art forms, jewellery, other objects, luxuries and decorative articles, clothes etc were explained as the aftereffects of that mutation causing a change in brain function. Another supporter of Out of Africa theory was the Theory of descent of Larynx at the same period (Leiberman and Leithman). Thus they decided spoken language (Vaikharī) as a ability due to sudden mutation. But, this proof lost validity when the Neanderthal body was discovered in an Israel cave. Hyoid bone structure of this showed Neanderthal people were able to speak. Both Neanderthals and Homo erectus were able to speak. (Arensberg B; A.M. Tiller et al. 1989. A middle Paleolithic human hyoid bone Nature 338:758-760). Then experimental scientists noticed even the chimpanzee can utter words and speak. Their chimpanzee Kanzi said 'Onnynn' when it picks up an onion, and spoke like a infant and played itself (just as human infants play and speak to themselves simultaneously). Symbols and spoken language are two different types of communicative languages and both can be used simultaneously, and spoken language originated out of symbols was argued by David Armstrong. (In Sanskrit these are known as Angika and Vaachika in Bharathamuni's treatise).

The study of brain centers which are interesting to Linguists and Psycholinguists are :-

1. Linguistic centers for spoken language and symbols
2. Paralinguistic centers. The center which is not part of the linguistic center, but accentuates the communicative power of a pronounced word. The stressed pronunciation, the speed of uttering (Kaalma/Time for utterance), the space between 2 words/letters (Yathi) the pitch (Sruthi) and rhythm (Thaalam) and dhwani are in this center. Orators and musicians (Vocal) should have well developed paralinguistic centers.
3. Nonlinguistic : This is the center for gestures, postures, facial expressions, looks, movements of head and body, proxemics and body language. This center is prominent in dancers, actors etc.

The 3 centers mentioned are in order for

1. Sahitya (Including Angika, Vachika, Manthranushtana)
2. Sangeetha
3. Nritha, Nrithya, Naatakaabhinaya

Together the capacity for these is known as Bharathakala, because it evolved in Bharatha, and codified by sage Bharatha of Bharathadesa. Thus, the antiquity of language and symbol is seen even in literary traditions and rites of India, millennia before its modern counterparts.

According to Sehrgahl's Theory, language is exceptional as a media for communication due to its flexibility. The communication between mother and child becomes maximum when they understand and involve in each other's communication. Mother understands language of a child, which is indistinguishable to any other person. When a foreign ethnographer tries to understand a culture which is unknown to him/her, the first requirement is total involvement in it, becoming part and parcel of it, immersed in it for perfect understanding of it. This is so for

understanding language of music also. The current knowledge was shared in a context , and without sharing no culture or emotion of a people can be known. This is the base for the flexibility theory . The language of Neanderthal , shared and developed by successive generations of species is a better possibility, than a sudden mutation theory and an out of Africa hypothesis as the only possibility. According to this, just as in a human child, in human race also descend of larynx had happened as a slow process, not by a sudden mutation. And by this gradual change ability of language expression increases with age/maturity. It is not a sudden event like Athena suddenly grown up on head of Zeus. Now in English language, the gradual sharing of language from mother to child is known as Motherese (Infant directed speech/IDS). At age 1.5 to 2 years a child starts to draw and to talk and like this human race started to draw cave art and primitive language expression at same time and this is as natural as a child's development .

We must remember that in 1879 the greatest Paleoarcheological discovery was not made by any scientist or adult , but by a five year old girl who went to a cave in Spain with her grandfather. Maria Marcelino Sansadi Southuvola was just looking at the roof of the cave and she suddenly saw 15 bison, deers, bears and a single horse drawn there. Later it was found to be drawn by men 13500-11000 years ago. They had used ochre, zinc oxide etc and 4 colours were painted on animals. The artist had used the natural shape of the rock to create a three dimensional effect which we call a Visual Realism in art. This visual realism is seen in children's (8-12 years) drawings . Such representational skills were evolved by hominids , not through millennia, but through 10000 million and more years of existence and scientists speak of such skills with wonder.

In 1998 in a cave called Makkapans Ghat (the name resembles strangely Indian !) in South Africa, a stone with iron ore , red in colour and 3 million years old was discovered. Why should an Australopithecus collect such a piece from 30 KM away and safely keep in his place of dwelling ? Scientists say, because the stone resembles a human face. Just as in a family photograph, a baby of one and a half year identifies own face and mother's face, this Australopithecus adult have identified a similarity to own face . In the acheulian collection of Israel, a 35 mm long volcanic stone piece has a female figure. On its neck and arms small deep grooves resembling an ornament is carved by some ancestor 8 lakhs years ago. This is considered as the artwork of an Homosapiens. 8-9 lakhs years ago, in African homosapiens settlements ochre pieces reached. Ochre is natural to many places on earth, including our own India. But is not present in Africa. Who travelled to Africa with ochre for painting, for leatherwork ? If homosapiens from other continents could communicate with Africa in that remote time, that seafaring homosapiens could be from India. Neanderthals decorate dead bodies when they bury it. In the skeleton of La Chappelle , and in skeletons of Quaphsaph and Israel there is red powder like Sindhoor on the head . In South India Hungsgi achuelian layer, in small ochre stones oblique lines are seen being used as a crayon. Even now in South Indian cults sindhoor on forehead and on Kolam is a live art. This painting and artistic carving was well developed 33000-20000 years back in Orignasian period when male and female forms with clay, stone, ivory and wood gradually developed. The researchers call the female forms as Venus forms . The female with no face, with heavy prominent breasts , thighs and buttocks are called

Venus forms. When we make Thrikkakkara Appan on 16th Makam we make clay muthassiamma just like this. In Harappan civilization such forms are abundant. These female figures are fertility symbols and point to worship of Earth as wife of Vishnu. The worship of nature as a cultural idea was the beginning of Naareepooja in India. This Ammadaivam cult became institutionalized as a cultural symbol of Dharma. (Bruce Dickson 1990 .The dawn of belief .Religion in the upper Paleolithic of southwestern Europe. Tucson. Uty of Arizona press) The abstract causal thought about the artistic female figures thus became the awareness of entire population about the names, forms, meanings of such forms of rites of worship. By using this symbol in a special rite, society is giving respect to all females as mother Earth, symbol of fertility, food and wealth. In Blombos cave of Cape Town, 70000 yrs to 1 lakh years old ochre stones (2 of them) were obtained. This finding in capetown at the tip of Africa , is again reason to believe that it was seafarers who brought to Africa the ochre stones. And this is the first symbol of drawing too. The 2 ochre stones have been rubbed and made into a plane surface and on them crisscross lines to form geometric figures drawn. The same pattern is seen in caves of France 6000-90000 years ago. Bones and stones of similar nature were later discovered in several parts of Europe with this pattern. From rock of France bones of 12 horses, and one bison was got. This was 3 lakhs years old. On them several interconnected couples of bows were drawn .



From Germany , parallel lines on bones (the same period) were discovered. On bones and stones the first drawings were either lines or cupmarkings .From Crema a carved picture like a fan about 54000 years old was discovered. In Germany , 2 bones 110,000 years old , with an opening carved on top was obtained probably related to some cultural rite. In India on the figures of Bhairava, Bhadrakali etc series of long bones carved with openings in the form of bone Murali (Flute) worn on neck and waist also may be part of such rites. In France La Feras beneath a limestone rock a small child's body is buried and on the rock 18 small cupmarkings seen. These are carved in 2 rows , 9 each as a couple, and facing the child's body. In Australian Ubirr rock painting was well developed 60000-40000 years ago. A male figure running , carrying hunting tools in hands (The stick figure style), the hunting expeditions in groups, rituals are seen in them. These are creations of men who have already found out his individualistic place and position in society. They are considered as the art of people who had logical thought to cross great oceans in a boat/ship (page 174 Greenspan, Shanker).

In a Chert settlement of 27000 years ago, 100-125 people lived. They lived in pithouses made by digging ground 1 meter below ground surface (to escape cold). Walls were made of wood pillars. They used energy to get heat, from materials taken from mammoths. Similar habitats are seen in boundary of

Moscow as well. Ovens, pits of different sizes, tools of bones and stones, and special places/factories for them, weapons and jewellery, clothes in 4 burial places of 20000-25000 years, were seen. In them a woman, a man, a male and a female child were buried. Males were wearing shirts, long pyjamas, shoes, boots reaching to knees, and a short cloak, and woolen caps. Female child had a hood on head. In dress of a man 3000 ivory beads were stitched and in cap all around teeth of Arctic Fox was decorated. In the boy's dress 5000 ivory beads on belt 250 fox teeth were seen. In the early Veda kings of South India also ivory, teeth of tiger, teeth of elephants were used as ornaments).

Darwin (On origin of species 1859. London. John Murray) said, for evolution, the basis is organization and before organization is achieved nature had conducted several trial and error experiments, like a child learning to walk. When one says that a complex evolution is nature's selection, the force or influence behind it is its simplicity. In every region the geographic features, climate, whether, proximity to sea, mountains, availability of food, biodiversity, rains etc vary. So the selection of nature varies with each region. Unless we learn this simple principle we will not grasp what is natural selection. The geographic features of India are unique. Only when we analyse its monsoon, biodiverse rainshadow regions and forest goods and food production, we know how the oceanic routes, land routes for sharing of such goods happened. Proximity to ocean made south India seafaring. Monsoon made it biodiverse and fit for sea travel. The antiquity of a people is determined from such factors, with all possible proofs, ideas, sciences, literary and anthropological texts, chronologies and cultural peculiarities and even subaltern histories. Only after this one can compare it with other civilizations of the world at the same periods. In the third stage the sign of humanity (symbols, language) of the people is analysed. Thus a complex problem is analysed and studied with a simple austerity of purpose in the crucible of a Maha Advaita. This is my method. In this there is a basic stone of culture, wisdom, habits, tendencies of a people shared through generations for millions of years and this is not hardwired, as Greenspan and Shankar say (The first idea page 181). This is unique for each Nation. But humanity is common for all Nations. The regional peculiarities and uniqueness, cultural characteristics have to be preserved, and a global harmony, peace and brotherhood, compassion for all living beings cultivated. This alone is the real Survival of the fittest Human race. This is my view, learned from Indian theory of evolution and survival of the fittest.

Thus, the view that entire human race is successors of a single race from Africa, and evolution is the survival of a specific racial gene by natural selection become outmoded and outdated and never approvable. Such conclusions are myths like a single Adam, Eve story. Bishop Usher announced that the world originated only in BC 4th millennium, and no one thought that it is just a false understanding of origin of earth. Out of Africa story is just like that. Just like the trial conducted on Galileo, for saying that the earth is not flat but a sphere, just like women scientists were burned on stake saying that they are witches, just as crusades and Jehads are lead to make a monoculture, monoreligious world, destroying every other race, ideas, beliefs and cultures survival of the fittest as the strong man's survival over the weak and out of Africa theory are against Nature.

Only when the genes of a race are protected its culture and its uniqueness, wisdom are preserved. Portuguese, Spanish travelers in 14th century tried a mass conversion to destroy central and south American and Indian cultures. This monoculture effort was not successful in India. Therefore, we still see

Indian culture around. Why did Indian culture survive while American culture succumbed to Spanish and Portuguese atrocities ? Indian culture had evolved with well organized development as Darwin pointed out , and this gave it strength to survive.The other cultures which were comparatively new and not having a very strong base or organization of life , either converted to semitic religions or were killed .This is a new history we all know.Our travel is far beyond, into a paleoanthropological ,biological evolution of a people.

There is constant contact between a biological object and its environment. Every small alteration in environment produce a change in biological object.By such changes which happen continuously for a long period,the biological organism learn to process all such changes.In Each evolutionary cycle , biological organism and environment has changes and thus differences. A continuous communication between the two is the basis for such differences and changes. This is transferred by generations in a monsoon environment , in tropical rain forests and paleological man of central and South India .This is what is lacking in other cultures like Italy,Greece,Israel or Turkey.They didn't have tropical rain forests ,monsoons and biological reserves and diversity .But South Africa had all these.Yet a culture like that of India never developed there .So , to postulate that it was a person from this part who moved suddenly to other continents with tools and created cultures there is a farfetched possibility (Just as saying that Vedic Aryan well aware of Varuna , the sea God and sea routes came to India from Europe and deserts of Turkey and Europe).Just imagination or wishful thinking cannot be taken seriously as science. In Africa, we find Motherese,signaling communications and spoken language based on that . That was present in South and Central America also. A tribal chief (Mooppan) was present in all societies. But a Guru , who transfers art,science,languages,administration,law and every branch of knowledge to disciples , and a Gurukula having rich academic tradition of literary sources is seen only in Indian culture.Apart from protection and administration of a nation on a day by day basis, the protection of entire world by communication of knowledge came up in Vedic India and before among the tribal ancestors. It is the paleological man, the tribal who evolved into a Vedic Brahmin,Aranyaka,Hunter, Kshathriya and bartering Vaisya who does agriculture,collection of forest goods,Goraksha is evident from evolution of Indian culture. Sudra, the 4th class as service class served all these groups , just as Government servants serve in responsible positions in present day administration.It is because of this organization of transfer of knowledge , Turkey,Babylon,Assyria,Jews,Egyptians,Greece and finally Portuguese and other Europeans came in search of India . India attracted other nations by her culture,wisdom,prosperity and administrative organizational power. It is interesting to note that except Arabs , no other people were allowed to set foot on Indian soil in early periods because Arabs came here as merchants and tradesmen. Even when a competition for trade and commerce developed between Greece and Rome (After Alexander) , Arabs had their say in major trade transactions.Even they were allowed to come only upto Sindhu,Gandhara desa and Kekaya ,(This is seen in Assyrian records) and hadn't access to the west or east coast of South India , which was defended as secret trade route by Indian naval force on west coast , owned by Perumpadapp Mooshakavansa royal lineage and his relatives and friends , and native soldiers. But , after the Udayamperur Soonahados and competition for trade between jews,Christians and Arabs in middle East , the relations became strained .

Intellect, language and wisdom are signs of Sathwaguna. When these are developed, one finds God in everything, everywhere so that equality of creation is understood. Then, one will not hurt any other thing, will not kill or destroy things and life, and Ahimsa or nonviolence becomes the Paramadharma. Such a sanskara alone is the protector of the entire world. They are likely to ward off cultures having violence and killing as their culture, for the protection of people. When this is done the problem of the right of communication happens. To solve that problem the ancient Gurus made some laws. The Kshatriya warriors protecting the boundaries of a Nation can fight and kill, but no one else living within the city/nation walls can kill or destroy. Thus a guild of warriors were installed in boundaries of India (including the oceanic boundaries). The naval defence on west coast of India was a result of this. From west coast, spices, forest goods, other commodities, scholars, artists and singers, brides and translators were sent to distant places. A mixed (Sangara) race were created in those places with transfer of wisdom and genes. But the race in the original land was protected by strict rules of matrimony. Kekaya, Gandhara, Sindhu desa married people from Babylonia, Assyria, Siberia and the new races of Jews, Egyptians, Europeans, Russian etc created. From their children and grandchildren knowledge of Indian systems survived in those parts of world. When Assyrians tried to come to India because of their warring and violent nature, the warriors of India (Kekaya, Gandhara, Sindhudesa) fought with them. But, India's cultural history is not the story of such wars alone, it is the history of a people's culture, wisdom, literary pursuits, trade connections, of arts, sciences and of Guruparampara (generations of teachers), of self-sufficiency due to rain and agriculture bringing enough food, and of Justice (Dharma) of its citizens. The history of a people is not the history of destructions through wars, but the history of survival through its wisdom. Creativity, culture, protection of culture depend upon peace and not on war; on nonviolence not on violence. This is the story of the Sage Gurus of India and their wisdom. This was not a foreign Aryan ideology, but an indigenous ideology inherent among the people of India. No other culture in the world can boast of having Nonviolence as their motto (Ahimsa paramo dharma) as Vedic Indians did. Continuity of races, of lives, culture and nations, of generations of teachers and kings depends on this policy and India set an example for survival of the fittest Nation and the fittest Human Dharma.

● Chapter 3 .Language .

Scholars think that at least 30000 years ago, language was evolved. They think only 10000 years back, agriculture evolved. Even at that time and now, chimpanzees are still in the state as they were 3.5 million years ago. So, it must be the language which differentiated the race of monkeys and apes from man. Without a language one cannot analyse and understand own mind, communicate, integrate, or remember anything. In the big bang theory of Noam Chomsky, during Pleistocene period a people underwent a genetic mutation and in them language evolved, and this "language gene" was strong, so that by natural selection it survived. Though this is an "Evolutionary myth", since no other logical reason is put forward, scholars are at present stuck with this theory and base their decisions on this.

From emotional relation of child and mother, sensory communications, symbols and signs, facial expressions, sounds and rhythms are integrated and by this process, the hidden voice in the infant become heard as Vaikhari. It was this order which happened in the evolution of human race also. Telementational language theory of Dechart is the base for European language theories. According to this, language is controlled by laws. To the spread of an idea from one mind to another this is essential. It is a type of encoding and decoding thoughts. In that emotional relations or love of day to day life has no role. It is a mechanical act. If we consider this, language communication is akin to a computer. This theory starts its analysis from an adult's communication as language. It doesn't take into account the communication of an infant. That is, they have lost memory of their own language evolution as child, and has become mechanical Yukthivadi logicians. The Indian scholarly Guru on the other hand starts with mother, father and teacher as the first communicators of children (Maathaa, pithaa, guru, daivam). From emotional day to day life and attachments to mother and family the child learns first lessons of communication and it is never mechanical. Language is a loving compassionate transfer of ideas which is grown through society and its links, so that it teaches one how to love family, friends, society and the entire world and cosmic existence. Everything is viewed as a single whole in its compassionate fold of Advaita.

In 1990, in English language, several articles and books were published about the origin of language. In them one can see two opposite theories.

1. Continuity
2. Noncontinuity; Temporary theory

In India, also there had been these two theories. The kshanika or temporary sidhantha of Budhists and continuity theory of Advaitins for example.

Chomsky's Pleistocene mutation called Generativist school thinks by the mutant gene a human infant learns language within 18-24 months. The opposition called Nativists say the ability is an inherent natural ability (which is genetical in Chomsky). The view of Chomsky that a computerlike heuristic algorithm is present in human brain is against the subconscious mind of Sigmund Freud. The subconscious mind is totally replaced by a computational model of neurological model. The aims, wishes, ideas in the subconscious mind etc are not to be learned with effort by psychologists, they need just analyse the brain programme which is a genetic selection. This vision makes psychology, equal to other biological sciences, which can be measured and analysed with objectivity as a computational revolution (Mathematical). A child learns language "automatically, unconsciously and without effort" and it is just like processing a computer language according to Chomsky. But for a computer programme a heuristic or builtin structure of informational processing or hypothesis forming system is essential. Only then, as per the data of grammar of a language, it can be cognized in a specified time. It is the universal grammar of a language. It is programmed in our genes, even the time of descend of our larynx, says this theory of Chomsky. Language is not a mechanical one with a style of Report, request and demand – says the opposing scholars. The door or format of language and culture is the same since language and culture are the same, says Bruner. The mother's play with the child is such a format. (Simple gamelike microcosmic versions of everyday means, by which competent members of a culture co-operate in

integrating their shared goal.) This was called Leela (The play) by ancient Indian scholars. The play or leela of Mother Goddess Parasakthi is the simple microcosmic vision of Bruner. Every mother enacts this leela of mother Goddess, Prakrithi with her child.

Thus every mother-the first guru-has to know how to grasp /cognize the signs and symbols given by the infant. Then how to respond to them with compassion, love and pleasure, enjoying every moment of it. The body, mind and intellect of infant, its abilities and powers are to be known before engaging in such a play. This lesson is meticulously followed by each sage/guru in India. They will not engage in a play which will be felt as a burden by the individual child. Only that which can be cognized and practiced by a individual disciple is taught. In Leela of this teaching there is a Krama or order which is never broken. Dharma is never violated. Thus, when one evolves gradually, as a Sphota, language, its rules, truth are revealed in mindspace in a special moment of revelation. Sphota is such a Eureka experience which one never forgets once one experiences it. Then the experience feels that it was not the Guru, mother or culture which were responsible for this experience, but I, alone the experience, and the experience is the first, only for the specific I. Immediately that half temporary light vanishes and it is experienced again and again. When it becomes continuous, he/she becomes a link in the Guruparampara. The protector of a continuous culture. This chain of play continues forever. New mothers, children, teachers repeat this play. The temporary experience of an individual, thus becomes a continuous experience in spacetime of generations of teachers of a Gurukula. This integration happened millennia before in India, as the chronologies of Vedic Rishis (see Appendix at end of Book) indicates. But, the discussion about it is still in its infancy in western language and literature.

The first indistinct word which I uttered, the first distinct word uttered and every word newly learned is a Eureka experience for every I. For every scholar and scientist/artist their creations/discoveries and books are like that. For millions of years, millions of ancestors had the Eureka experience and these temporary Sphotas became continuous experience of a people, as a culture. And the language I speak now, my wisdom, my culture are all simultaneously my own temporary sphota experience/revelation and the continuous expression of millions of years of experience of my ancestral races. This simultaneity of Kshanika and permanent Leela (Play) has both emotional and intellectual basis and a human being is both emotionally and logically (intellectually) involved in this play of existence.

Biological Theory of Chomsky:-How was Chomsky attracted to the Biological theory which originated in the 1960's and 70's? What was the environment which influenced his idea? What was the role of Selig Haris, teacher in Pennsylvania university in this? The answers might help us to understand Chomskian ideas better. In 1940's, we find Haris as the spokesman of the strong theory of language, called Descriptivism. According to him 2 major duties of the science of language are,

1. Determining the hierarchical structure of sentences
2. Classifying these units of hierarchy as equally distributed classes.

Grammar is to be understood separate from understanding the meaning of Semantics (Language). Linguists have only the duty of finding out the formal styles. They need not learn meanings. The job of a linguist is to learn the style and grammar of numerous languages. This opinion

was influenced by the Recursive function theory , strong in the field of Mathematics , in those times. In 1937, Alan Turing ,Mathematician of England had defined that any formal system is a mechanical means to create a equation .Computers and artificial intelligence evolved out of this.Based on this,Harris saw linguistics as a mathematician.For such a mathematical language theory two things are essential.

- 1.It should be possible to create sounds which are approved by a person speaking a specific language
- 2.It should be possible to analyse sounds.

Harris classified Morphemes (smallest units of language with meanings) into groups.Chomsky had adopted Harris' idea "Meaning must be completely separated from grammar".He tried to create grammar mathematically.Every sentence in language is a law explainable through equations , and therefore analysed too according to Chomsky.To argue that meaning is not important he created a meaningless sentence : "Colourless green ideas sleep furiously".Chomsky is the creator of this sentence which is meaningless and logically wrong.Structurally the sentence looks correct . But logically , wrong and meaningless. "Colourless green ideas" and "furiously sleeping" makes both structure and meaning wrong, and for a person communicating through English language it doesn't convey any message , though it may be considered as example of a sentence with verb .

Chomsky's phase structure grammar :

S= a sentence

NP= Noun phrase

VP= verb phrase

Aux=Auxiliary verb

A= Adjective

N=noun

V=verb

D =Determiner

Instead of = used by Harris he used a rewrite sign \Rightarrow (arrowmark)

S \Rightarrow NP+ VP

vp \Rightarrow verb+NP

NP \Rightarrow Determiner+N

verb \Rightarrow Aux+V

D \Rightarrow The,a ,some

N \Longrightarrow Man,dog,ball

Aux \Longrightarrow will,can

V \Longrightarrow sit,catch,hit

From the first symbol S , one can reach all these lawfully and all these together make language ,according to Chomsky's Phrase structure grammar. The next stage was finding out those who doesn't get included in this scheme.He said beyond a syntactic universal, unlimited diversity of language cannot happen. Whether a child or a scholar in language, one has to learn like a linguist and predict distributional irregularities according to Chomsky.In this sense study of language by a child is a new creation which combine both analysis and prediction.His steady state theory converted behaviourists to the side of neophyte programmers.(Those who try to learn a complex thing by a technique which is insufficient to learn it).The laws of a simple mother tongue , even if it is heard from birth,to grasp it properly the child needs an inbuilt genetic structure for cognition.Behaviourists said Chomsky's theory is equivalent to Canalization theory of genetic scientists. Pinker said Chomsky's lawmaking and cognition are the Instructive behavior of Ethologists. These two views of Behaviourists of 1950's combined is Chomsky's discovery, in short. (Artificial intelligence and genetic determinism).In metamorphosis From classical behaviourism , to cognitive science the contribution of Chomsky is that study of languages is a process of acquisition of maturity.If the seed is good and strong, if good environment is provided , it will grow into a strong tree and perpetuate its progeny. That is,both genes and environment are contributing in survival .It is a continuous process, and not a temporary one.

Emotional signals increase brain channels .Emotion and intellect function together.For the upper higher centers of brain there is relation with lower centers.If it was not there,how can one co-ordinate experiences and logically decide ones course of action? The 6 stages in the growth of brain in a child are :-

STAGES	EXPERIENCE REQUIRED	GROWTH OF BRAIN
1. Interest in observing world around ,peacefully, with concentration , and happiness	Observe,see,hear;listen,move etc	Increase of sensory neuronal channels .Primary sensory motor cortex,Thalamus,brainstem,cerebellar vermis.Amygdala ,hippocampus,cingulate gyrus which increase emotional interests
2 Loving and communicating with the world seen	People who communicate with child happily and lovingly	Emotional centers,sensory communication centers,sensory motor cortex,patterns with right-sided nervous network (sight,movement),emotional relations,communications,symbols.
3.Affective two-way Intentional	People who can cognize child's lead and with enthusiasm, make him communicate on his own	Selective responses to environment,frontal cortex,dorsal prefrontal areas.

4.Problemsolving, Consciousness of I,Me	An interactive partner	Cerebral cortex.leftsided neuronal branching and rightsided growth
5 Creation of ideas/symbols	A person who becomes the imaginery idol of the child .One who talks to him/her for long time.	Left neuronal branching,visual imagery packs,both sides of brain become specialized as language is being acquired rapidly
6.Building bridges between symbols /ideas	One who asks for the child's views,listens to his logic,and takes interest in his intellectual emotional growth	Growth spurts in brain.CH metabolism of brain become double that of adults.Increase in areas that deal with creation,comprehension and analysis of words.

A child cannot do this alone.Either one or more members of a society are needed for this. This is applicable to the first human races as well. Thus, in South Africa where a literature,language and philosophy like that of India is not seen, the second (or the first Guru) was lacking there . Lack of experience from a elder person(Guru) is the reason for difference seen in Indian and African society, though both places might have had human species originated at same time .What the Homoeructus of India got , and even the Homosapiens of Africa did not get is this factor. Though both have rains,monsoons and biodiversity the lack of a language and a culture makes all the difference between these two continents . The matrilinear society, with a prominent Guru figure in India who protects Vidya for generations may be factors responsible for the development . Evolution,survival,Natural selection in India are dependent on such causes which helped us develop a dharma and samskara .

Emotional neuronal transmission (thalamus to cortex is .25 msec) happen very quickly and are direct communications.Therefore emotional pathways are the Directors/Architects of our cognitive orchestra .Emotions are not contradictory to logic .Through co-regulated interaction , emotions are changed into signals and they lead our logic and cognition in the right path.Indians discovered Yoga method for the accentuation of this. Jean Piaget proved that intellect and logic are created on the base of emotions.Child know the world through emotions.discovers a goal and a path to reach it, through emotions;communication of emotions influence and stimulate language and language stimulate intellect. The process of signifier knowing the signified is a mini description of the Jnaathaa,jneya and jnaana in Advaita and Bhashasasthra of India.

Culturality of genes:-

Pole of cultural relativity- rites,clothes,jewels,homes,administrative rules,society rules,expression of emotions,thoughts ,language,drama,symbols and music ,way of greeting others,natural languages ,society ,varnasramadharma,cognitive power based on it ,myths and stories,childbearing, relationships mythology,classifications,marriages,classes,economic structure of society,behavior ,tools ,family,culture , psychological theories of society

Universal pole:- Biology,emotions,facial expressions (Nruthya,abhinaya) mudra (amgika),body languages,concentration power,knowing another's mind goals,thought processes.

In the universal pole we see features common for all men and women . In relative pole the characters are different for each person and for each geographic area. Seeing diversity in unity and unity in diversity , we reach an Advaita quite early, if we are living in a biodiverse geographic area like India .

In BC 5th century Greek philosophers were having a debate on whether nature, Nomos (human rites) or God is responsible for diversity in human culture . Because they had come in contact with varied cultures of India by that time. Rationalists and Empiricists of European thought thought whether human mind starts as a new unwritten slate or with an internal structure . If both are integrated , the problem of sophists was which is inside and which outside ? What influences what and to which degree ? Genes and environment and its problem of influencing each is still being debated in West. The debates in various disciplines is given below with terms used in each.

Subject	Debates
1 Psychology	Nature or Nurture
2. Biology	Genetic Determinism vs Dynamic system theory
3. Linguistics	Nativist vs Usage
4. History	Determinist vs Pluralist
5 Politics	Marxist vs Libertarian

This unending debate continues. 20th century American Anthropologist Franz Boas is of opinion that historical, social and geographical differences are the reason for diverse cultures on earth. (Modern cultural Relativism in Anthropology). He proved that Inuits of Baffin islands are not just a primitive people , and their belief in fate and reality leading to a unity between them is wonderful , and in this sense their culture is a fully developed one and best for the environment of that Island. In this sense the unity of India and its geographical peculiarities and culture have to be viewed from a mature anthropological social sense. Franz Boas's opinion was opposite to the view of Charles White who said : " The white Europeans , who being the most removed from the brute creations, may be considered as the most beautiful of the human race " (White C. 1799. An account of the regular gradation in man and in different animals and vegetables London. C. Lilly). God has not created any one as pagan or brute or primitive. Everyone is equal in God's eyes and has opportunity to rise depending upon ability and desire of each and Boas was a strong advocate of white and black races being equally beautiful and intelligent.

To know nature , Anthropology and psychology has to be integrated (Harvard Anthropologist Klid Kluk hohn) To do this , the changes in body and language , emotions and mind has to be recorded. Everyone come across births, deaths, disease, old age, and similar universal experiences at some stage of life. The reaction to such universal experiences of men and women of different ages, socioeconomic and educational status has to be studied. The daily habits of cleanliness, food etc , agriculture, trade and commerce, music, language and literature, culture and society life make the reactions positive or negative . These studies make us aware of basic difference between diverse cultures. A society is a collection of individuals. Culture of an individual is determined by his/her behavior to another, to society, his/her language , communication with the world, intentions in life etc. In a village both cultured and noncultured individuals dwell together. The unified existence is not a association to fulfil some needs as

we see in political groups. An internal cognition, language and emotional field and its communication power to the entire universe, including the society in which one lives, is the real unified cultural existence.

Bronislo Malinowski is considered "William, the conqueror" of British social Anthropology. His ethnographic Research Methodology says anthropologists should not remain mere observers of a society, but should merge with the society under observation. If not, their research has no value. The research of P. V. Vaidya in Guruvayur becomes valuable because she did not remain a mere observer of Krishna cult of Guruvayur. She became a Malayali woman with Krishna consciousness in her research process. The method is within a functionalist framework. Gregory Bateson said, anthropologists use religion and economic factors according to their own whims and levels of knowledge and their own familiar cultures, when they observe a culture. (Steps to an ecology of mind Gregory Bateson) Bateson concluded that an anthropologist should try to make a whole and clear picture of the following factors which had kept the society unified.

1. The structural side of unity:- The behavior of any person in any situation, should be conforming to the behavior of other members of society in any situation. This is the Dharma of a society.
2. Emotional side:- The behavior should be formulated to fulfil the emotional needs of individuals.
3. Economic side:- Behaviour is streamlined for Production of things, and their distribution.
4. Chronology and timespace:- The behavioural order will be in conformity to the chronological orders and timespace continuum of a geographic area.
5. Unity of society:- Behaviour from small units to larger sections of society is modeled and streamlined to make entire Nation unified.

If we observe the behavior of an individual and society in this method, we can assess its culture. To observe Indian society in all these methods is my attempt and my books on different subjects have done this slowly and steadily. Especially Saptasaindhava in Malayalam and Corridors of Time in English have large sections devoted for this purpose.

Structuralism of Claude Lévi-Strauss is opposite to that of method of Malinowski. Lévi-Strauss model is known as Anumanadarsana in Indian logical thought. Universal patterns are not created by society or environment. They were existent before cultures were formed. Therefore universal patterns before cultures, are the cognitive principles which basically makes society life possible. (Levi Strauss. 1967. Structural Anthropology. Garden city. N Y. Double Day Books) For Levi Strauss language is an analogy of culture. Chomsky does not agree with that. Yet, these two stalwarts have some similarities. Chomsky gives language a deep internal plane and a outer plane. It is the deep plane which mirrors the forms of thoughts. The deep level of cultures and the behavior of society at external level are similar to this. The determining law is the internal universal one. The superficial differences and diversity are many, but deep unity is one.

We had seen the three planes through which each human child pass through in language learning.

1. Cortical,subcortical planes of brain
2. Development of brain ,actions produced by individual experiences in life
3. Role of environment in individual development(Sonia Regor 2002.Constraints on communities with indigenous sign languages. Clues to the dynamics of language genesis . pp 366 The first idea Q)

these are responsible for cultural development too.Therefore good actions (Sadkarma) creates sadsamskara and sadvasana (good cultures and good tendencies) and bad actions breed bad cultures and bad tendencies.This Indian theory has to be reread in the light of such modern studies. By good company,good thoughts and good actions and good tendencies are cultivated. By such methods a culture of nonviolence and truth is protected . The structural ,continuous, indepth plane of Indian Dharma is thus based on strong grounds of observational evidence . The 5 parts Bateson mentioned were integrated in India . The cognitive power of such a cultural state in every being in the Nation was achieved very early in history by India.That means India had achieved a freedom of thought and a fully mature, perfect culture of truth,nonviolence as Dharma was evolved here for world peace and prosperity.

There are some logicians who try to prove that having a vision and having an internal call for doing a Dharma are signs of a mental illness. Without emotional communication dry logic will not grow,emotion and logic are embodied in human brain and man is not logic alone. If this is realized , mental power(emotional integrity based on intellect) will not be misunderstood as mental illness.

Suppose there are 5 types of human beings in a society.

1. A person who claims that he had a vision and has learned sciences. But, lacks logic. Doesn't have interest in problemsolving of society/nation or doesn't have ability or wisdom to solve them.
2. Has logic. But uses it for increasing problems already existing insociety and to increase separatisms.
3. Has logic.Has interest in problemsolving, and also the ability and knowledge for solving problems. Works for the unity of Nation.
4. There is a vision and an insight. Has Logic .Has interest,ability and knowledge in problemsolving of society/Nation.Works for unity of Nation.
5. No interest in problemsolving,no logic ,no ability,wisdom or visions. No contributions to society.Only selfish motives.

Of these 5 types of people, only 3 and 4 are useful to society/Nation. Number 2 is a menace to society. The first type is not a menace,but an illogical emotional being who may not be able to help society/Nation. The 5th type mentioned is the majority of persons seen in India at present. But they can raise to levels of 3 and 4 by proper training and awareness programmes. But there is a possibility that they can go down to level 2 , the menace group because of their selfishness. The Dharmasamsthapana of Indian sages was by raising the level of individuals in a society to better personalities, totally unselfish and useful to Nation and the entire world. This has to happen from time to time, when society become contaminated by adharma,atrocities and

dishonesty. Unless this philosophical field of Dharma is understood, one will not be able to cognize the levels of Sathwik Brahmana, Rajasic Kshathriya, mixed Vaisya and Thamasic Sudra functions/professions/tendencies. The arohana and avarohana in scales of dharma, by own actions and thoughts is a reaction to our actions. In a society, there are several cultural, political, socioeconomical units interconnected and tied up, yet free of existence as such. And each quality is protected with opportunity for mixed varieties. Each race of this biodiverse universe is protected with several mixed varieties experimented with. The unity of such a biodiverse universe (as in Indian monsoon shadow areas) and their unity and life pattern as a distinctive institutionalized culture has to be compared with Parson's model (Parson, T. 1999. The Talcott Parsons Reader Ed B S Turner Oxford Blackwell)

Know Indian society. Have an insight as oneself as a part/member of this Indian society. Do whatever little is possible to contribute to its unity, development, evolution, without expecting anything in return. Money, power or fame should not be the goal. Just love for the country of which one is a part and parcel. Such selfless love for our Nation as Dharma of each individual is proclaimed in Vyasa's epics. When majority of Indians behave with such a vision, mission and dedication to Dharma, we become a mature wise free Nation. Till then we are not free. The preverbal deep universal communications are the central focus of a person's individuality. That is a person's vision (darsana) and Sruthi (Veda). From that one gets a strength to stand together, a feeling of oneness (unity) and logic of protecting Nature and Nation as one's dharma. Thus strength and logic come from a deep internal vision and not vice versa. The logical expression of the indepth darsana and sruthi, (which is para, pasyanthi, Madhyama in deep planes) into a vaikhari (communicable spoken language) is for world peace, and peaceful co-existence of all races of men, animals, birds, and plants. Not just for one individual, group or party. When a human being starts doing this at a practical level, he/she becomes known by others as a Sidhapurusha. Sidhi is for the future of entire world, not for one single person. It is for protection of world culture, and that is how from a distinctive Institutionalised culture of India, several world Gurus/sages were created in ancient times. The chronological lineage of such Guruparampara is available to us in Vedas. Therefore, to call India as a land with no history until foreign rules happened is not only illogical but also unscientific. (See chronology of Vedic Rishi as Appendix at end of this book).

● Chapter 4 Custodians of Culture

Media often use the term custodians of culture. Who are custodians of culture? Cultural leadership is the basis for all other leadership, and therefore what is expected within the thought process of a cultural custodian is interesting. After Maathaa (mother), Pithaa (father) it is the Guru (Teacher) as a cultural custodian imparts culture to a child. What is a society's expectation of such a Guru? What are the reasons for a society unable to get a Guru/cultural leader according to its expectations?

What should a Guru know ?

1.The past history of his/her society;dharma cherished by society;the different reasons for the fall of Dharma in different stages of history;the changes produced in society by such falls;the present knowledge of society members about them and their misunderstandings about them;The problems ensuing from such ignorance and misunderstandings;methods of problem solving.

2. Structure of society,responsibilities of civilians and of teachers;ethical principles;confidence;abilities of disciples(people);their sharing in society .

3.The values and beliefs shared and their importance in a democracy;need of equality in justice ;to perpetuate Vidya and culture how one can formulate a policy for personality development of each of the members of society .

4.Creating a teaching method within by analyzing the ideas and values subtly, and communicating that to the outside world for awareness (a perfect teaching method to society).Thus creation of a healthy Educational policy for benefit of entire Nation/world.

5.Influencing / giving stimulation for others to share such visions and goals of the Guru for benefit of society/Nation/world.

6.Each individual/disciple has ability to think logically and create goodness in society and thereby give a substantial contribution to society. Based on this confidence in goodness of individuals, Guru has to influence each to reveal his/her best in doing good to society.

7.Creating practical methods to preserve the unity and culture of entire Nation/world at the same time protecting originality of each individual culture/personality and diversities intact. Ability to discuss the theoretical aspects of such practical methods logically and convince about its usefulness to all.

8.Due to effects of actions, differences of opinions and quarrels between people arise. In such situations the differences of opinions have to be visualized not in a negative manner, but positively and make them useful for creative developmental processes and thereby make the institution/nation achieve more and grow to heights.For this willpower ,and work efficiency has to be there in a leader/Guru.

9.The wisdom to create,perpetuate a line of disciples in society who have logical intelligence,and work efficiency and love for humanity and Nation.This is to perpetuate even after one's death a series of younger generation as torchbearers of universal ideals of Dharma.

10.It is good to understand three main leadership theories.

A. Classical organizational theory.

B. The human relations approach.

C. Behavioural science approach.

This knowledge will help us in many ways. To motivate our colleagues,to give power and chance for others, having a friendly impartial disposition for achieving a goal (for benefit of entire world /nation), and work as a united front for a satisfactory realization of that goal. All these are learned through these theories , if one is willing to learn.

11.Be a good Diagnostician.

Preventing or Giving right treatment at right time requires an early diagnosis/prediction of problems that can crop up in society .Thus a good leader has to be a good Diagnostician , in the language of a Pathologist.

12. Teaching (Giving instructions) ,discovering human resources of cultural and managerial abilities; strategy formation and advice; These must be in the thought fields of a good Guru/Leader .

If we do research on the actions of a good cultural leader we get 7 types of knowledge:

1. They think ,speak,do for the sake of common good of institution/society/Nation/World and never for petty selfish motives.
 2. Practical knowledge that rites,festivals,symbolic actions,music,dance,drama ,ancient literary traditions preserve the selfrespect,selfconfidence of a people.
 3. Goal being the same , a unified duty consciousness for visionary Gurus/leaders is essential for any people .
 4. Expectation of high performance by disciple/citizens ; communication for achieving that;awareness of all members of society having the ability for high performance;all teachers (if they are sincere) has ability to stimulate and grow that ability; Thus a collective goal for all leaders (teachers) and their collective action in strengthening the Society /Nation .
 5. Continuous communication strategies, sharing of ideas and thereby establishing communication with all groups/members of society and through such positive relations making the best out of each for growth of society/nation.
 6. New experiments ,new methods to improve concentration powers and knowledge/wisdom of every member of society
 7. The Guru as cultural leader is always ready for solution of problems and is approachable /accessible through different media (including digital).
- (Cotton. K. 2003 Principles and student achievement .what research says. Alexandria V A.Association for supervision and curriculum development)

In an institution /society/Nation a positive environment in human relations and in success rates has to be created and preserved by cultural leaders (Gurus) . Each leader/teacher has to ask whether they have fulfilled that role .

- 1 what do I believe,think,speak and do ?
- 2.How do these affect my society/institution/nation/world ?
- 3.Who are the teachers,ideas,books,events that have influenced me ?
- 4.How they have changed my emotional,mental,intellectual,professional fields ?
- 5.Did they help in my beliefs,values,educational status ?
- 6.when ,how and from which type of experience /teaching do Children/human beings grasp best ? What helps improve their cognitive power?
- 7.Who is the best Guru/leader ?
- 8.How should a good Guru encourage a disciple's success ?

9.How to perpetuate good positive relationship with others ?

10 To increase selfconfidence in others what should I do,communicate with them ?

11.To materialize my model state/nation/society/world what do I do in thoughts,words and deeds ?

I ask these questions to myself so that , in my limited fields of activity,I can contribute my share to my nation/society/world.

There are 8 qualities (R.S.Fox and Boies H E) which improve the environment of aneducational institution.(School climate improvement :A challenge to the school administrator .Bloomington.I N Phi Delta Kappan.)

1 respect

2 Honesty,trustworthiness

3.contentment and selfconfidence which raise the morale

4.Opportunity given to each for sharing ideas so that each gets a role in problemsolving

5.continuous academic and social development

6.The method of integrating everything

7.Renewal of the institution/society for its development and evolution

8.Caring for others

Laeadership is a Relationship. It is a relationship of influence on the capacity of others for achieving goals. How can we measure the morale of our colleagues and of members of society ?

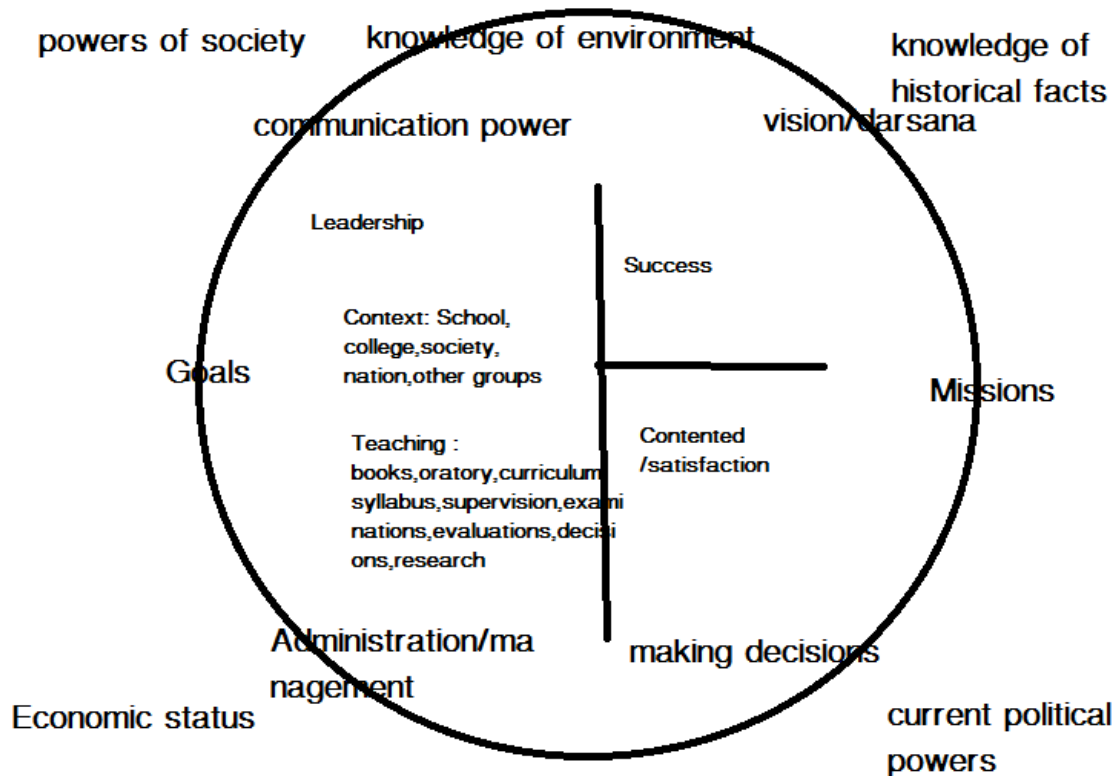
Positive behavior	Score	Negative behavior
Warm	5-4-3-2-1	Cool
Professional		Unprofessional
Accepting		Rejecting
Democratic		Autocratic
Co-operative		Competitive
Sociable		Unsociable
Total morale High		Low

(De Roche E F.1987. An administrative guide for evaluating Programmes and personnel :An effective guide for evaluating programmes and personnel: An effective approach .Boston:Allyn &Bacon)

A cultural leader should have a vision (Darsana) and a mission (Goal/Lakshya) and an awareness of that goal and the methodology to achieve that goal,and communicative power to tell that to others. Without having such prerequisites, making comments on anything and everything on media is not good for anyone. But unfortunately ,people of such styles are given the title Saamskarikanaayaka (cultural leader) by media .

How does the vision/dream of a visionary leader become reality ?

(Adaped from cultural leadership Jeffrey Glanz pp 69)



Brahmajnanai as Leader/Guru :

Brahmajna is a spokesperson of nonviolence and is interested only in teaching, learning, protection of dharma for benefit of all, and totally unselfish (Nishkaamakarma) in his actions. Therefore all other groups (royalty ,tradesmen and artists and civilian groups) selected such a person as their leader /Guru in India millions of years ago. What the west is trying to implement was implemented thousands of years ago in India. But we have lost that tradition due to various interferences .

Leadership is a unselfish act of Dharma. In India we had several sages and world Gurus with this mission and vision. May be last in that series came Gandhiji .His failures were not due to failures of his inner force. But because of external forces , who had many selfish motifs.

Who is the best leader ?

In my opinion, the one who doesn't have a desire to become leader, and yet leads society to its desired goal of perfection is the best leader. He /she with high ideals, simple life sets a model of inner perfection, and goaloriented behavior of truth, honesty, nonviolence, equal opportunity to all members without

partiality .Such a nishkamakarmayogi is the ideal leader according to Bhagavad Gita , in Vyasamahabharatha. And modern thinkers are gradually coming to that model , thousands of years after India created such a model.

● Chapter 5.Worshipping Wisdom (Vidya)

In Punneyurkulam , my village, were some methods of teaching in our primary schools. (I studied there in the period 1951-56). Under a tree , children will make a circle and teacher will sit in middle. Songs,stories,day to day political news,etc will be shared between students and teacher. This playschool model discussion and sharing was a relic of ancient Gramasabha schools and Gurukula. From primary level to highest academic level such sharing was common in Indian society of ancient times as we understand from our epics. The panchayathana orpanjayaths of villages functioned in similar way.

In The Routledge Falmer guide to key debates in education (2004.Ed Dennis Hayns. Ch 10 Circle time pp 55 Lynn Revell) describes a similar procedure .It reads :

Schools everywhere have been experimenting with an activity called circle time. Circle time involves sitting children or adults in a circle and discussing and sharing issues ,themes and ideas. The teacher or a designated adult plays a facilitative role and encourages participants to realize that they can resolve the problem or deal with the issue themselves. Circle time has become so popular that it is now recommended in Governemnt inspections and policy reports (Department of education and skills 2002). Teachers,students,Governemnt Inspectors and educational experts have experimented this inprimary,secondary,higher education levels and its quality certified. Here Guru is not an autocrat who impose his/her ideas.;but a therapist,councillor,educator,combined into a facilitator .Facilitator does not impose own views on children; but tries to improve their confidence,communication power,and positive personality development.The importance is for the child's overall development. The 7 year research of various authors (1996-1998 Jenney Mosley;1998 Dawson & Mc Ness;2000 Sullivan;2002 Rigby,Barrow,Suckling; 2003 Long and Fogell) from 1996 to 2003 and experience out of these are quoted by Lyn Rewel .In National curriculum , this was introduced as per the advice of Mosley.

When India got freedom, 10000 year old experience of her Circle Time teaching was discarded . Last 10 years , England,America and other Nations of the west are experimenting and finding out the importance of that very same circular method. Now, Indian Educationists will start to reintroduce it. The loss of self esteem of a people is reflected in the discarding of all native systems and adopting all foreign systems as better methods whether in agriculture, or education. Howard Gardner in his Multiple Intelligence programme had stressed the role of Guru as a facilitator. Gurukula methods of teaching with Guru as facilitator and a second parent away from home was practicing this role for thousands of years.

Earlier ,European scholars thought white races are more intelligent than the black races. That is why they supposed a white Aryanrace for teaching Veda to the black race of India. Now, times have

changed. A jet black African 60000 years ago had travelled North with tools in hands to teach Asia, and Europe the fundamentals of culture is the new imagination. Both these are figs of imagination, and not truth. If the second theory (Out of Africa Theory) is accepted, then the white race originated from a black ancestor's genes. Howard Gardner's MI theory does not accept intelligence to be the sole property of any one single race of human beings. In 1993, he wrote the "Frames of Mind". Being an educational psychologist, he formulates that there are 7-8 different types of intelligences and a person with high grade of one type need not have same grade in another. Simply by assessing one type of intelligence, one cannot say that a particular race is less intelligent than the other. The geographic features of a particular region, experiences out of it, social training etc are some of the reasons for increased intelligence in music, mathematics, literature, language and communication, warfare, oceanic travels etc. If we add all these fields of intelligence and, if someone exhibits all these, that alone is the perfectly intelligent person and people. When I study Indian people for each of these intelligence, I take a genius of one field and study his/her literary works and a modern person in same field and compare them. Indian people had all the types of intelligence Gardner described. Some of the sages were proficient in more than one, and sometimes in all fields of intelligence. That means, Indian subcontinent had all facilities for development of multiple intelligences and people could choose his/her fields of interest to excel in it. In our scriptures, Sri Krishna exhibits all the 8 types of intelligence Gardner describes. If a Guru finds out the type of intelligence of the disciple and stimulate it as facilitator, each person/student become great in own field and gets success in life.

In 1977 Labour party came to power in Britain. They accepted theory of Gardner. In Michel Barber's Learning game (1996) the new labour party manifesto (Agenda of Government) stressed this point. Barber became the Head of Prime Minister's Delivery unit, in his inner circle. In 1997 Geoff Mulgan (became advisor to Government later) saw that MI of Gardner is the strongest tool in Educational reforms, and best answer to the conservationist old system of "same size for all" educational theory. Same size cap and shoes for all heads and feet; students are to be made as same type coins was the Macaulay system of old model Monoculture Educational policy (introduced both in England and India). MI theory was the deathbell to this Macaulay model education in England, but India still continues it. Tom Bentley (1998) questioned the written examination system in classrooms. (I have tried to do away with this in my Music Therapy curriculum syllabus but teachers and universities of India /Kerala state are still in the fist of Macaulay). Testing intelligent quotient was foolish. America was using IQ tests based on the assumption that white race are more intelligent than black race. In 19th century phrenologist France Joseph Gall used skulls size and shapes for determining IQ. Gardner proved his theory by using more than one approaches.

Psychobiological potential of Gardner or the emotional physical energy of intelligence is related to the Modular structure of Jerry Fodder (1983). In our brains there are several types of modules to process different and free knowledge systems of varied types. The central focus of the idea is that each module has biological freedom. Gardner called these modules psychobiological potential. According to this each child cannot be taught the same curriculum. The intelligence Gardner liked most is Musical Intelligence. Though all of us are grown in same environment our musical energy or musical potential are different. It is given to us by our genes. But, even if the genes are present, if we never had an

opportunity to hear music, that genetic intelligence will never be expressed. Children subjected to only science, linguistic, mathematical intelligences are those who are denied the opportunity to develop musical and psychobiological energy. (Not those who does not possess it). If children are given music by parents/primary school teachers and allow them to develop their tendencies freely this situation will not happen. In ancient India, in primary levels children were exposed to songs, poetry, literature and mathematical logic simultaneously and an observing facilitator (Guru) found the child's tendencies and helped them to grow. Even for adults festivals and occasions to express their artistic and musical skills were plenty in Indian villages and cities. Gardner did not say mathematics can be taught through music. He didn't even state that music is a method of learning for mathematics. He stated that a child without interest in music (in his/her genes) should not be forced to learn music, just as a child with no ability in Mathematics should be forced to become mathematician. If a child has potential for all sciences and is having MI, he/she will learn all in course of time. Aptitude is the important thing and not the learning style.

For the satisfactory working of Fodder's informationally encapsulated modules, cognition is necessary. A general processing unit (Homunculus) is essential. For Indians, this processing unit is beyond intelligence, a principle called Athman. It is the self-revealing Prathibha or genius. This is absent for a computer. This point is not yet analysed by western scientists. Indian Guru on the other hand, know and experience the self-revealing power of Athman and its multiple expressions as multiple levels of intelligences. In chapter 16 (The subject of spirituality Mike Radford) discuss whether spirituality should be included in a curriculum. The key debates in including spirituality in education starts with, how to include it and the three different methods for inclusion.

1 Secularisation. Ethics, Social issues, emotional development etc are stressed. Beyond that an enquiry into Athman is not necessary. Human beings does not need a God which cannot be grasped by sense organs.

2. Children are allowed to attend faith-based schools of different belief systems/religions and allowed to enquire into their particular Godhead.

3. We find these two methods in today's society. But a third system is to be analysed. Whether God is existing or not is a different debate of two viewpoints. Whether God exists or not, a civilian/human being has to obey the common laws of society to live harmoniously and peacefully in society. Social and emotional control is essential for all human beings. Those who think that there is no God can believe so but have to follow the ethics and social laws of society. They have no right to obstruct or insult those who believe God exists. Those who want to enquire into abstract things beyond our sense organs are scientists. If God as a nonsensory experience exists, every right is there for one to enquire into that truth. Those who believe in God of a specific type can do so but they have no right to say that theirs alone is the only possibility. They too have to abide by society laws for harmonious existence. This should be known to every citizen/student of an intelligent Nation. If we want a wise society of this type, the first two methods are insufficient.

Larry Darrell, of The Razor's edge of Somerset Maugham saw a sunrise from the top of a mountain in South India. He understood from that beauty around, that everything physical, he thought important

hitherto were not so. He abandoned everything, "So that everything that had been confused was clear, and everything that had perplexed me was explained. (Maugham 1998 :298) Thus all tensions and stress abandoned, beyond all physical senses and mundane things, a journey into beyond senses is the ultimate science, art and beauty. This is the Spirituality of India. The different methods of dhyana are for achieving this ultimate goal. This Ekanthika method of silence and loneliness in a vast expanse of mountain tract, with music of Pranava, stimulates concentration, cognition, awareness of Oneness (Advaita) of everything and that is ultimate spiritual awakening of Bodhi. As Mike Redford says : "Balanced and broadly based curriculum which promotes the spiritual, moral, cultural, mental and physical development of the pupil " is made possible with Nadalayayoga and Pathanjalyoga in my value based education and Music therapy curriculum.

Here, Education has the meaning – Physical, mental, intellectual, spiritual health. This is the goal of entire society, not of a single individual. My professional life has incorporated these two fields in a single whole. The values of society are considered as Therapeutic values by sociologists (Dennis Heynes. Ch 34. The therapeutic turn in Education). Parents and teachers are responsible for creating a people with such therapeutic values, through educational means which will prevent illness to society. When this vision is ignored, that people become unhealthy and treatment become necessary.

Who should measure the idea of "Therapeutic Turn"? The person/human being who wants to know or the Researcher. Because it is for the Knower. It is human being as Knower, who introduces knowledge as a problem, creates separatism, and Unity. The sole responsibility for separatism and unity are that of the knower, human being. Not of the knowledge. Why did the idea that one need not search for God come up? Because several men used the idea of God for creating separatism and battles. But, several human beings have used it for unity, peace, and wisdom too. Each human being has a different cognitive power. Jnani has wisdom. Truthseeker is enquiring and searching for truth. The one who is searching through a particular path can say that I have found God through this path. But has no right to say that this is the only path for seeking God. If the path is good and correct, whichever path is selected, it should lead to the same goal-Truth. An educationist who has to show light for several generations of human beings, is a creation of that unified vision (darsana) and a recreator of it. He cannot be the one who deviates people from truth, nonviolence and Dharma. Therefore, an emotionally mature, wise Guru will speak only in the Therapeutic Language. Generations of children and youth will naturally grasp its truthfulness. A person who is spokesperson of one sect or group or some selfish goal will not have this therapeutic language. Thus they are not good Guru/leaders. It is this Therapeutic idea which is called the Quality circle time of Primary school of Jenny Mosley. A facilitator leader is different from a group leader. If one does not get an emotional literacy and wisdom, he/she has learnt nothing from life, says Heyns.

At secondary school levels therapeutic language is shared with children in cross cultural issues. Individual relationships, civilian duties, whether one wants peace or war etc can be impartially introduced, giving importance to their views, at the same time stimulating their thought process in right direction can be done. For example: I read a series recently which can be utilized at a school level (Living in Harmony. Mini Krishnan Oxford University Press) In that model, teachers can communicate with children in quality circle time. At college level this can become more extensive discussions/discourses.

A Therapeutic University:

Educationists must be visionaries of a longterm basis. Only then, we can implement such educational reforms. If we go on giving promotions only on basis of seniority in number of years, we cannot expect any reforms either in schools or universities or any other institutions. The insight of visionaries of a university means "A closer harmony with ourselves to build more authentic relationships with our students (Rowland 2000:114). One who does not know oneself, cannot know another and lead him/her in right path. Research, criticism, Analysis and creative listening are for an enlightened societal self monitoring. Those teachers who have done this are responsible for the concept of a Therapeutic University. Aim of a Therapeutic university is the expectation to give protected safe and happy environment for students in presence of such wise teachers. Such students would be motivated to do Dharma for the Nation and world and will be compassionate. This idea gave rise to Gurukula type of teaching in Indian Educational Institutions. In fact a human being learns throughout life and therefore, it becomes a "Lifetime Therapy" for him/herself and for society around. In case, there are people in society who were unlucky, and did not get proper environment for such development, a sort of "rewinding old good days therapy" also is possible.

Research is not mere stories retold by clients and doctors. In it, there is a lifelong data collection, proof accumulation, organization of these proofs, and presentation of them, with careful communication. The Karma of a researcher has to be noticed by society and rewarded, for the quality of that Karma, and not for any other reason. It is not a human right like freedom of speech. Only if the communicated knowledge is useful for society it acquires great value. Otherwise, its value is only for ourselves. Sometimes we find research projects discarded and mocked at by colleagues and professors being accepted by entire society. Such historic moments appear in science. The last quality control in field of Education and Medical science is "what is the benefit of this for society/Nation/Humanity/World?" I always remember a sentence Sri Soolapani Warriar of Edappal told me when I started to learn Jyothishasasthra: "Suvarna will be benefitted by learning Jyothisha. But the question is, what benefit the science of Jyothisha got from your learning." This is applicable to any science, any profession, any branch of knowledge. A good citizen contributes to his/her society, to the branch of science/arts he/she learned, to the professional fields and to the entire world. When Rama built a Sethu across ocean, a squirrel also helped. May be my help for Nationbuilding is only that of a squirrel. But, even that is better than doing nothing. That principle followed in life, makes each one of us proud participants of Nationbuilding, and ornaments of our ancient Nation and of the world. Sitting in Ivory towers, making Research papers and publishing them in International journals, but of no use to society except for one's career building and promotion, our Professionals are doing what one should not do. And deeds and words are opposite to each other in many professionals and leaders. It is better to have a truthful honest life, rather than getting such opportunities in life. When I look back in life, my journey is satisfactory. I have contributed though a little, to my profession, family, society, literary and art fields, and educational, administrative fields. And this life's journey is about to end within a short period. I am communicating what I learnt and what I believe is best for my Nation's future so that coming generations may benefit from this writings.

Mukthi, means liberation from another birth and death cycle. I do believe that I deserve Mukthi, since I have lived and enjoyed liberated existence in this life. But, if someone asks, in a possible next life, whom

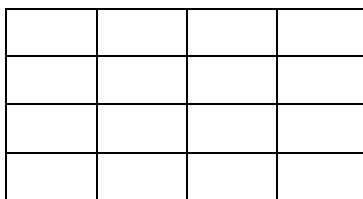
do I want to become,I would answer “Me.The very same Suvarna”.Because,my life has been contented,satisfied and quiet, away from hustle and bustle of desires and immersed in quest for inner Truth and vision of it within and without !!!

• Chapter 6.Theory of Evolution

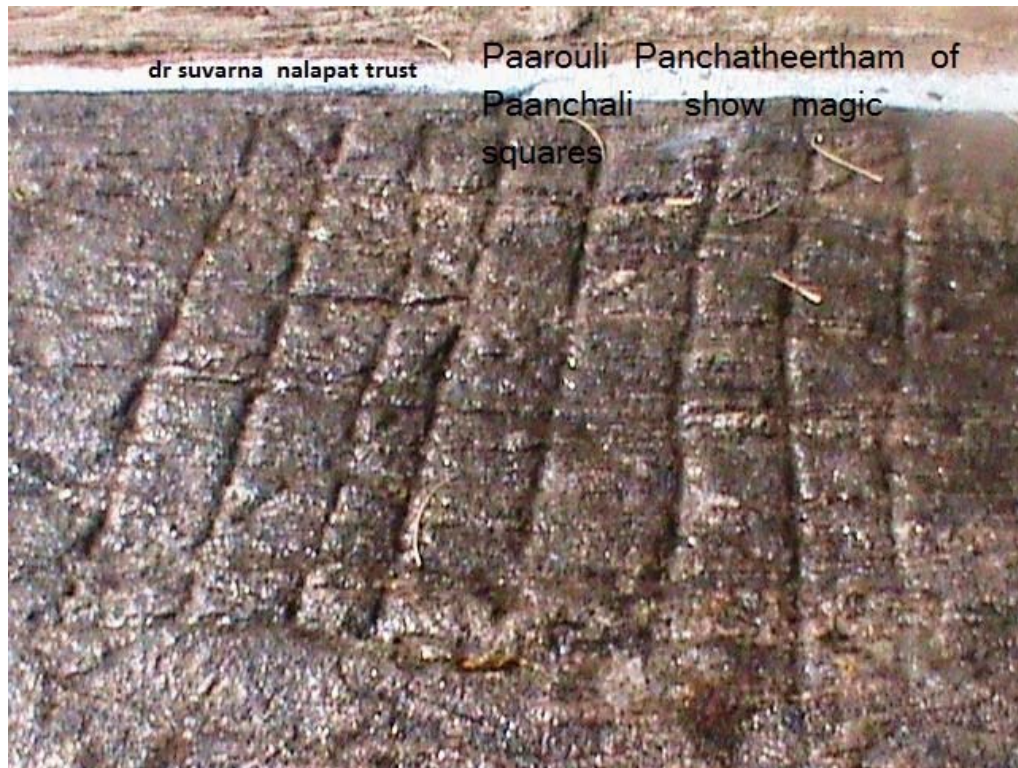
When did man learn arts ?

K.T.Gandhirajan says the rock art of Thirumalai,Muthalaikkulam,Keezhvalav,and kongarpuliyamkulam of Tamil Nad are 2500-3000 years old .Art of Mohenjo Daro and Harappa are older. Art of Bimbektha caves in Madhyapradesh is much much older .It is about 30000 – 700000 years old (including the cupolas) The rock art and cupolas of Muthalamada of Palghat is almost as old as that of Bimbektha .In Tamil Nad 70 Rock art sites are discovered.

Ever since human beings evolved, cave and rock art also evolved in India. The ochre stone with natural iron oxide is used in Africa to draw crisscross patterns (welldefined crosshatched) and this was discussed by Michel Balter (Science Jan 30 –Feb 6 2009).By applying 4 methods of dating such figures were considered to be 99000 years old. Since this style is seen not in a single site, but at different sites, in different pictures, it was decided that this was not an accidental drawing, but a symbolic communication of ancient man. In Zambia , Twin rivers , this is seen about 100000 years ago.Balter said: “Making sophisticated tools and using symbols both requires the capacity to hold an abstract concept in one’s head, and in the case of a tool to impose a predetermined form on raw material based on an abstract mental template.”



I saw some such patterns on rock surface in Kerala known as the Leelagriha/chessboard of Devi (Mother Goddess) and of Panchali and her 5 consorts. Both looked alike.At two different places. The literary tradition of Jnan chowpad or Leela as God’s playhouse is the symbol used.



To make tools (technology) and to create art objects imagination through symbolism and abstract thoughts are essential. Symmetrical tools were made 5 lakhs years ago by Homo Heidelbergensis and they had bigger brains than the Homo erectus before them. Humans in Germany made stone pieces and Schöningen spears 4 lakhs years ago. They made it with wood. That means, the saw, and cutting technology were well developed at that period. Zambian stone age people about 2 lakhs 60000 years ago had cognition and communication power just like modern man. Beautiful other pictures are seen there about 1 lakh years old. 1 lakh years ago, it was the Neanderthal period. That means they too had the

ability .(The Neanderthals E Trinkaus & P Shipman).In the slovanian caves of Neanderthal bone flutes were seen which shows they had tools to carve out bone as flutes and that they could make Ragas through flutes. The symbolic communication of them is depicted in their burial sites where decorations with stones,bonesbeads,garlands ,tools,tree branches etc are seen. An ancestral rite like that signify a sort of spiritual awareness or a knowledge of after life and Neanderthals had such awareness. The musicality show their larynx was developed as homosapiens. The fine arts and Neanderthals were not complete strangers. But, no Neanderthal remains are found in Zambia r South Africa.

It was earlier believed that a creative revolution 40000 years ago , in Late stone age happened in Europe by Cromagnon man in Europe and their caves in Spain show evidence of this .The old belief that in South India late stone age began only in BC 500-1000 is such an “Archeological wisdom” which is at present discarded by modern archeologists. All Eurocentric opinions are replaced by discoveries in Africa, South Asia,South East Asia and Australia. If 60000 years ago rock art existed in Africa, if 700000 years ago cupolas and rock arts existed in central India , how can the Eurocentric theories be accepted ?To quote words of Balter Darwin :”To chip a flint into the rudest tool demands a perfect hand as well adapted to that task as the vocal cord organs are for speaking”.Both language and art are symbolically important and linked. To express thoughts as symbols and words is a creativity which humans acquired long before the modern civilization. Before a written and oral language, the symbolic picture script and Ribhus developed. Because,

1 Thumb is seen even in monkeys.

2.They too use simple instruments

3.They too have group music like the Guerilla chants

4. Baboons can point at a Triangle and Bindu , and to understand the difference of these figures from other designs .Without abstract thought this is impossible.

5.In an experiment to do mental arithmetic, Jesssica Cantlon of Duke University demonstrated that Rhesus monkeys have 80 % ability,just like college students.

The genes of chimpanzee and man are having only 1 % difference .Modern man and Neanderthal ahs only 0.5% difference .Svanta Paaba (Max Plank Institute of Evolutionary Anthropology Leipzig Germany) in his attempt to know which are these 0.5 % differences discovered Neanderthal mitochondrial DNA in 1997 and said that we were from the same maternal ancestry as Neanderthals. He says, these two races started to differentiate and evolve on separate lines 6 lakhs years ago.

Mitochondrial DNA is preserved more longer periods than Nuclear DNA and partially contains sequences of Nuclear DNA and it is from it Paabo got 60 % of Neanderthal DNA. Even before that it was discovered that Gene FOXP2 of man and Neanderthal are same, and that it is from this gene ability of language is obtained .Lactose intolerance gene of man is present as such in Neanderthals also. Cognitive power and creation of language being equally present in man and Neanderthals, the study of fossil gene 38000 years ago by Paabo opened up new vistas of understanding about our ancestors. Neanderthals have a

thousand differences from man, but cognitive power and language ability are same. (Science Feb 13 .2009).

The pertinent question is: Did Neanderthals and humans , who originated as children of the same mother , and branched of into two ,have interbreeding at some stage in their lifespan. Since both races existed together in Europe , the possibility of exchange of genes between Neanderthal and human species in Europe is postulated. The genes of Europe and Africa must be different. Because Neanderthals existed in Asia and Europe, and not in Africa(according to evidences so far). That means, as I pointed out earlier, it is not the Africans who travelled all over the world, and likely traveler is from Asia (especially India). It is in this light, the shortsighted epigraphic readings of Indian epigraphists , which never crosses a few years beyond beginnings of Christian Era become fallacious.

Fossil sample of Paabo was a bone 38000 years old. It might have been modified by

1 chemical changes

2 Degradation

3 Contamination by microbes .

Paabo did his comparative study , taking into account all such possibilities. The climatic and weather conditions of Indian tropical rain forests,and the rite of burning dead body on fire(Pyre) might be the reasons for not obtaining samples from India. Therefore, we have to assess from all other proofs,and cultural symbols including presence of cupolas of Paleolithic archaic human beings.

In 2005, Edward Rubin (U S Dept of Energy Joint Genome Institute) and Paabo established a method to find the order of genomes of all microbes. With this method 27000 bases were studied and orders determined. Canadian scientists broadened their method into a next generation technique and 28 million Neanderthal base sequences were identified. (Feb 13.2009). The sequences Paabo found from sample of Croatian cave was with a much modified and better technique than this. A 38000 year old sample is a comparatively new sample .Fossils older than that is not yet studied.

Indian scientists still follow the oldest Epigraphy taught to them by 18th century British people , to serve them as helpers . It is just another job for them and the intellectual revolution happening in other continents are not reaching them. The tubular vision of our Epigraphists have reached a timespan not more than BC 3000; 2000;1500;600;500 and early years of Christian era . All newly discovered rock arts and inscriptions are put in one of these timespans safely and the Biblical lifespan of Universe is never broken by them. In China manmade caves and pottery making factories (17 of them) were discovered in Shanshi province .Within 16000 sq meter 17 caves and factories means it had been a very ancient inhabitation point for humans. These were during the Yang shawo culture in the middle of yellow river. Red claypots with painted patterns are signs of this culture.Each cave is 10 sq meter diameter..Each have 2 rooms.One room is carved out of rock.The other is made of stones and wood on the face of the cave. The kilns for making clay pots ,storage caves for pots ,tools are also discovered.In the proximity of each home is a kiln proving that it is the inhabitation site of potters. They were staying as a Kulashamgha

(sreni) or guild of specialized labour class here. (In all the sites discovered before this a single kline for several houses was the rule.) On north side is a deep pitch (Kitang) for defense. It is believed that this Guild of labour with specialized labour and defence at North existed around BC 3500 -300 almost the same time as Indus valley Harappan times , and time of Mahabharatha . In India by this time there is a well established urban society with organized administration, trade and commerce and well defined administrative laws. That means , the Neanderthal and archaic Paleolithic phase of India might have happened millions of years ago than this period .

Man shares 500 of his genes with microorganisms (including archaic), fungi, plants and animals .Mutations after 2 billion years have happened and still these small organisms and races of life survive along with human beings. They are also the fittest for survival. They keep their originality of race and preserve biodiversity with peaceful co-existence. They preserve their genetic order, structure, functions and its meanings as it is .If a monoculture universe is made, all these races will be lost forever. (Sean Carroll. The making of the fittest). This has to be understood as the survival of the fittest , even among the weakest and smallest microorganisms. Even they are strong and fit to survive as a race. The preservation of their own race is their strength .Lesson is, preservation is strength not destruction. The genetic structure required for the necessary production of vital proteins was protected by them through a natural selection and this is how Nature keeps up its biodiversity, and protects even the weakest microorganisms against all odds. Survival of fittest is a Natural selection. But not as Darwin thought, destruction of the weak by the strong. But protection of even the weak by Nature's preserving power which in Sanskrit is called Sthithi as opposed to samhara (destruction).

At the same time biologists see change in gene pattern from monkey to early man and to modern man as a sign of evolution. At two poles they are

Mutation is defended.

Even the smallest microorganism is preserved.

Biodiversity persists

Natural Selection and survival of all races .

Mutations.

Monkey to Early man

Early man to modern man

Evolution of species

Survival of the fittest human race

25 million years back , from a common ancestor humans, chimpanzee, Orang utan and Macaque monkeys were born .(Hughes Medical Institute ,Evan Eichler, Uty of Washington) .In an era where Jambavan, Hanuman and Balisugreeva lived along with early man and modern man is described in India's oldest epic Ramayana . The epic becomes an experience of an ancient sage who had first hand knowledge of such co-existence. And Ramasethu is not a religious symbol, but the symbol of a people's engineering skill and that too of Nala and Neela, two South Indian early (apelike) ancestors .When

modern historians negate such a ancient rock relic as a mythical religious belief, (as Romila Thapar does) the do not understand the antiquity of human race and its varied cultural patterns and habits and multiple intelligence theories . Destroying historical evidences have become fashion because of such foolish attitude of historians themselves. An interdisciplinary insight is required for all scientists in such matters.

Medical science discovers that neurocognitive and neurodevelopmental diseases (including autism, mental retardation, and schizophrenia) are comparatively new and originated with the new duplications of mutant genomes in apes and humans . Our ancestors, including great apes might have thought of methods of survival. But modern man is blissfully unaware of survival of own race and of other races of species and destroys them quickly , and how can we think that this is evolution? We have evolved technologically but regressed in our strength for protection of our own and other species on earth . Modern man suffers a neurocognitive mental retardation and kills Nature and all races along with it , simply for the sake of a few million Rupees and luxuries which will be of no use on a dead planet. The modern man cries for protecting ecology , and destroys ecology .He fills atmosphere with pollution, and lacks a vision for a future for entire life forms. The ego of man makes him not fit for survival .

The life tree of Charles Darwin is Oak. For Indians it is Asawtha or banyan tree. Banyan is a better symbol for a biological life tree of many societies of organisms , because of its numerous branches from roots and trunk. Darwin's tree of races starts from the life forms seen grossly. In it no lateral transfer is present .Only vertical transfer is seen. (New scientist Jan 21. 2009). The tree with lateral gene transmission is represented by a banyan. Small organisms on lateral transfer and bigger one on vertical transfer makes a symbol of Chithrakoota under a tree worshipped as KA or prajapathi even during Indus valley Harappan period .When Krishna marries a girl from the great ape family of Jambavan (who existed during earlier Ramayana period also) the gene transfer of two races do happen and a mixed race of genes with survival potential is aimed at. Vertical is a pure race and lateral is a mixed race of human beings.

After Darwin's period man had discovered more stars and nebulae than the biodiverse life forms. Many of them are not yet discovered . Many have disappeared from earth .Coral reefs are habitats of more than 1 million small organisms. Ramasethu is made of floating stones which are calcified fossils of ancient coral reefs and therefore are archeologically important for determining the antiquity of the biodiverse existence of coral reef species at southern tip of India. The very fact that the sethu is a fossil of coral reef makes it important in environmental protection.

Misunderstandings among people who believe in Darwin's theory of evolution(New Scientist .April 16. 2008):-

1 The thought that everything we see around can be explained by Natural selection.

Even without natural selection, genetic random drifts do occur. Evolution is a combination of both. Darwin did not know this. Each of the alleles from each ancestor is present in our gene. If population is less, the genetic drift will be more (In inverse proportion). The last ice age was 10000 years ago. After that , there was a decrease in human race. 60000 years ago , Asian people migrated to various continents to

decrease population density. 10000 years back, on the other hand, they were trying to increase population (as we see in Mooshakavansa kavya of Athula and in Ramayana)

2. Survival of the fittest as that of the strongest.

Mutations need not help survival always. There are mutations which destroy whole races. The strong killing the weak race is not survival of the fittest as many misunderstand it to be.

3 The bigger one will survive and destroy the smaller one is another misunderstanding.

Honey bees are small but highly co-operative and they have great periods of survival unlike beings which are competitive and destructive. Sponges and jellyfishes have survived from Precambrian era to modern period with no change at all. (Ramasetu is made of their fossils as I had mentioned earlier). Fungi, Mosses, sharks, horse shoe crabs etc also have survived like this. The most simple and original Adivasi groups will survive many disasters, while the so-called modern civilized people perish at the slightest provocation or natural calamity.

4 The misunderstanding that there are beings which are totally adapted to nature.

Natural selection gives ability to adapt to a particular situation during a particular lifespan. But does not provide it for all time and for all situations. A race is preserved as such with all its characteristics, only if it can adapt to any situation at any time. Since tropical climates have sudden changes all round the year, tropical beings and races have got this sort of adaptation power. Even though not perfect, a near perfect adaptation to any situation at all climates is possible for tropical races alone. The biodiversity of races also is more in such areas. Human beings are not perfect. We cannot see at night because of blindspot in retina. Owls are having this ability. In early European records we find that the Europeans were astonished to see this ability among Adivasi tribes of forests. This tropical adaptation, we are rapidly losing due to human interference with life styles.

5 Human being is the greatest and best creation of God according to the classical European thought. This ladder theory in evolution and belief that humans are the best creation is totally wrong. A ladder is only a vertical development. For Indians, it is a Chitrakoota or a crisscross (vertical and linear horizontal combined) development as in a banyan tree. Therefore all organisms are equally important.

There are two areas to be filled in the evolution.

1 Intermediate forms 2 Transitional forms.

Intermediate groups show features of two groups and are between them. Between monkeys and man there are several such species. Among them *Australopithecus afarensis* and *Homo erectus* are not present now. Their race is totally destroyed. Transitional groups are ancestral groups which survive, even after the race has branched off into two or more. 7 lakhs years ago from a common race were born chimpanzees and man. We still see chimpanzees. They coexist with us. These links make us understand about the evolution of man from animal. They are not dead fossils but living links.

If we compare the living civilizations of tropical India , with the contributions including literary traditions, we will understand how different it is from semitic religions and how foolish it is to call it a religion. It is the culture of this land. Not a foreign commodity. Without knowing the theory of evolution man and bacteria, plants and animals can coexist and survive together. But, modern man gloating with pride of knowledge of theory of evolution, destroy nature, all life forms, and own race by polluting atmosphere. Just rethink: who is the fittest for survival and who is the greatest ? Man is not the best creation. Indian science call man asa vaikruthasrushti (Vyasa) which means an unnatural artificial creation. But he can become great if he/she becomes spiritually (and thereby intellectually, emotionally and physically) healthy and only that type of spiritual leader/Rishi is called Mahaan (great) not entire human race.

Human hand : For natural selection and survival of races the greatest threat is from human race. Man changes and destroys everything for his convenience and liking without having a vision for the future generations. For temporary luxuries of life he exploits and destroys nature and several races of beings along with it. This is gross violence . Nonviolence (Ahimsa) as paramadharma was advocated by ancient Indian sages for protection of all species and they meticulously safeguarded the tropical biodiversity. J . Stanley Cobb rightly said : " Humans are frighteningly efficient predators". In the life cycle of many races of plants and animals we encroach upon and destroy them. Modern man has developed a "monoculture" type agriculture and made this biodiverse tropical belt similar to a temperate zone. This history of deforestation and development of a forest (with only teak, only rubber etc) of monoculture by British (like their temperate climate) is harmful to Indian tropical climate. Experimenting with different technologies we have destroyed several species of seeds, plants, animals and birds. Making crossbreeds of wild and domestic dogs , and different plants we do not take precautions for survival of the original pure race of these species. 12000 years ago, tropical Indians scientists (Rishis) had made some rules for protection of every race, at the same time giving provisions for making crossbreeds. They could grow grass into paddy and grain to make India selfsufficient in food. It is after the Industrial revolution, mass scale destruction of nature and races of species happened at high rate. Human hand was responsible for that.

Paul Paquet from University of Calgary and other scholars had reported the extensive killing of Codfish at Canada and New England coasts , and as a survival mechanism this fish started reproducing at a younger age (as a result producing children of smaller size, since big size codfish is more hunted and killed by men) . The expected death and need for protection of a race alone is the reason for this behavior. Paul Paquet says , the formula " Chance of reproduction before death increase if you start early" is used by these fishes, but this is extremely dangerous for that race of fish, though temporarily seems to be good. (All races who promote child marriage also should rethink about this formula. It is not good at long term to have progeny at a young age). Because the new variety has no adaptive power to withstand changes in nature.

What is the relation between Evolution and embryonic stem cell research? Not that both are hurting the religious feelings of average Americans. Only 40 % of Americans have accepted theory of evolution. 60 % are believers of Bible, that God created man with other beings. This is taught in schools. American people are openly discussing and criticizing theory of evolution. In 2008 June 26th Louisiana science Education Act

said that schools can teach theory of Creation as well. In 2009, when 150th year of Darwin's theory of evolution was being celebrated, the deathknoll of it also was heard in America. That means Theory of Evolution is the most endangeres species in U S of America.

In 2008 Scientific American (journal) published a national survey results.1/8th of U S high school teachers (Biology)think theory of creation more favourable or equal to Theory of evolution.1/3rd of teachers are exerting pressure to introduce it as a lesson in schools.Oxhamoma state was the first state to introduce an antievolution bill very strongly. (National center for Science Education).Michigan, Florida, Missouri, New Mexico ,and South Carolina are also trying to pass this bill. In Britain the opposition to theory of evolution is not that strong.

Chapter 7 Indian Theory of Evolution

Last year (2008) I received an email message stating that a discussion is being held on Darwin's theory of Evolution in Oxford University , (150th year of the theory) and to send an abstract for that discussion.Whether the article was selected or not is immaterial. The invitation to send such an abstract itself is a honour for a scholar on the subject. The importance of the conference of Ian Ramsay center of Oxford University was its title:" Religious responses to Darwinism 1859-2009).I liked this subject , since my opinions based on Indian Philosophy (Make note.Not religion.Philosophy and spirituality are the words I use) may be of help for the conference.

This chapter is the full paper , slightly modified for fitting it into a book.

There are 5 principles important to Darwin's theory.

- 1 Probability and chance
- 2.Nature; Strength or power;Freedom for selection;and opportunity.
- 3.Ability to adapt and teleology
- 4.Nouminalism and essentialism about species
- 5.Tempo and mode in evolution.

For survival of fittest ,natural selection is needed. Such natural selections have importance only in a context or geographical area where there is biodiversity of species. If there is no biodiversity (as in temperate areas) natural selection has no role or importance.In monoculture areas also it has no role.When a drastic change or mutation happen a monoculture society is totally destroyed. The word Nouminalism means the ability of a biodiverse shphere withumerous species for continuous survival,and know the natural changes prior to the occurrence of the change proper (a predictive capacity) .This Nouminalism happen gradually in a biodiverse sphere exposed to natural changes and not suddenly .

Biodiversity

	Origin	survival
Fitness(strength). Basic	Lamarck Asa Grey	Darwin Asa Grey
Fitness (which is not basic)	Darwin Neutralism	Lamarck Neutralism

Now it is taught that biodiversity is the survival of fittest on the basis of strength (fitness) and its survival (permanence) is only a chance. Darwin didn't think like that. For example a seed A and seed B. A has more reproductive power. At present the seed is not selected by nature, but by man and the Governments who give subsidy. It is an artificial selection, not natural. A mutant gene selected artificially, will either die or lose its reproductive power, if a disease happens. In both cases, its race does not survive. But that selected by nature will survive. (Like a sickle cell gene of tropic survive Malarial disease). That means Darwin is not speaking about the Malthusian/Marxist theoretician's reproductive power or of the survival of crusaders in a foreign island. Darwin's fitness is the ability of different genes, to produce several seeds /children in a race and thus the ability to survive as a race. It is not an external force acting upon the needs of that particular race. But a freedom of choice of the race to act in an adverse situation and to survive at its best. If fitness value is $w=1$, all genotypes will survive as such. If it is < 1 one will become more prominent than other. (equality lost). Selection co-efficient $S=1-w$. That is the selection of Darwin happens in two stages. In creating a biodiversity, there is no relation for survival; and for keeping continuity of this diversity, the environments required for survival is related to adaptation. Its goal (teleology) is maximum adaptation of all races, without destroying any one race. When man lives in harmony with nature, mutual changes are produced and that history of changes is called Environmental history. How did environment influence human history? How did human actions change nature/environment? How those changes in turn affect man and other races of creatures. How this awareness made a reaction and protective instinct in human mind? All these are included in environmental history.

In 1992 the biodiversity of different nations shows India at 4th place and Indonesia at second. But if we take the species peculiar to each place, India is second and Indonesia is first and Mexico is behind. As we go to upper latitudes biodiversity is less. Because of this, in India we can understand how ancestors of tropical South India developed awareness of biodiversity, and need for its protection and how they devised laws/rules for breeding of races. This happened millennia before Darwin and Christ. They had the wisdom to leave nature alone, and not to build heavy *vaasthu* on coastal plains, to use a *pokkaali* seed of rice (which will be above water level even during floods so that produce is not lost in floods). It was the contact with India and its knowledge of theory of adaptation which influenced Europeans to think and experiment on these and find out themselves the truth behind it. Because they didn't have a biodiverse locality, they had to learn it from biodiverse Indian states. The resulting science is accepted but the cause for the science –Indian system– is discarded as religion, by scholars which is illogical.

16000 years back when Greeks were a wild people specialized in butchery and carcass processing associated with toolmaking for this purpose, Indians were civilized and had evolved as an agricultural community with scriptural knowledge and urban centers. Therefore, study of India and its scriptures will give the earliest evidence of human race and its consciousness evolution. Indian Advaita is equal and more to a grand unification theory. Darwinism is the first attempt of European mind to discover biodiversity of life, and its causes. But earliest Indian scriptures are discussions and debates, after study of such biodiversity and its causes, and the 6 Darsana give detailed analysis of organic, inorganic, macrocosmic, microcosmic field and find out the position of man in it. The root cause of all manifested and unmanifested things is Oorja or energy and from energy is born the entire cosmos. This wisdom at that age is the collective vision of human race at a remote past and needs to be studied for knowing human ancestor's intellectual evolution.

Indian theory of evolution :

1 Unmanifested energy of highest frequency as light wave and particle. This is the subtlest. The observer who visualizes this experience it as Naada. Therefore, this is called Naadabrahman.

2 Subtler short waves of high frequency which are not observed by gross sense organs. The observer's eye which sees it is called Yogadrishti (Yogaprathyaksha). Based upon it, logical analytic thought called Prasamkhyanam happens. In this both Yoga and Samkhya are included.

3. The sathwik guna as light field is visualized as different forms of waves having vibratory frequencies and seemingly moving. From external things a wave enters body, mind, intellect and Athman in that order; and from inner Athman a wave moves to intellect, mind, body and external media in reverse order. By this two wave movement (gathi) and their meeting sensory perceptions (Indriyaprathyaksha) happen. This is the modern neurobiological energy. Vaiseshika theory deals with this. Though the waves are subtle, the observation is at gross sense organ level, physical.

From karya (effect) karana (cause) is not formed. It is from cause, effect is formed. Sath is cause and sense organ/external world is its effect. The first saamaanya (general) makes the visesha (specific) which are the orderly changed or evolved forms. The difference between them is in the speed of the waves. The causal energy gets denser in orderly fashion, and a dravya (object) is formed. When it is a dravya, the speed of movement decreases gradually and stops. The first form and maathra (unit) is called a paramaanu (subatomic) in Vaiseshika. In a dravya, beyond paramaanu, no change or parinaama is possible. All dravya are made of 4 types of paramaanu.

Vaayu (Air) magnetic power.

Agni (fire) electrical power

Aapas (water) electromagnetic power

Prithvi (earth) all these 3 and Aakaasaparamaanu combines.

The creation after these paramaanu is known as Dravyaarambham (beginning of Dravya) and this theory is called Arambahvaada (Theory of beginning).A visesha (in Vaiseshika) means a thing which had change in quality, due to change in unit measure. (Gunaparinama due to maathraaparinaama).

Paramaanus join to form an anu (atom).

Many anus join to form a thruti (molecule in which time is incorporated.timespace unit)

Several thruti join and form the Sthooladravya (gross object) which is visible to gross senses. This can be either ajaiva (inorganic, nonliving) or jaiva (living,organic). Examples for ajaiva is given as THrapu,seesa,loha,suvarna,rajatha etc which are all different types of metals .

Samyoga (union) is the natural quality of dravya(objects). By samyoga, Guruthwa (weight,gravity) increases. When the parts of a dravya are separataed (sithila) flexibility is obtained. In a parthivadhathu (prithwi with all 5 elements) in between anu (atoms) sneha (oil) enters and makes it sithila (separated).This is called samyoga of earth (adhesion). Parathwaaparathwa and parasparaapeksha (relativity in timespace,interdependence,order) are created due to desakaalasambandha (union of space and time).

Among the panchakarma (5 functions) the strongest is Gamana or gathi. In the order of Bala (strength) they are gamana,uthkshepana,avakshepana,prasarana and aakunchana .The last two happen in the mandalakshethra (field of spacetime).Paramanu's direction is face (mukham) and therefore, by paryaya it is the cause for change in direction(dikparivarthanahethu).

Gathi (Gamanam)	Energy in motion/movement (Kinetic)
Uthkshepanam	Repulsion upwards towards head
Avakshepanam	Attraction downwards (tail)
Prasaranam	Expansion
Aakunchanam	Contraction

Due to apratheeyamaana which is gathiroopa (potential energy) in dravya the gunapaksha (qualitative property of matter) and karmapaksha (properties of forces/powers) are different.Thus Dravyasamskara (culture of dravya) with different quality and function are created in each dravya (.It is this theory which is basic for the Varnadharmas of human beings which are considered as Dravya).In this way , the single unmanifested cause is evolved/changed into manifold manifested prapancha (universe).In functions (karma) already evolved into a form of culture (samskara) we can find 3 types of samskara.

1 Vegam 2.Bhavana .3.Sthaapakam.Apart from these 3,two more called Bhramanasamskara and Kiranasamskara make a total of 5 samskara.

1 Vegam (Momentum).

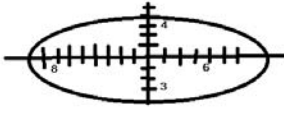
The niyathagathi (fixed movement) of a dravya with 100 paramaanu and that with 1000 paramanu are different. Each has a different speed and quality of dravya depending upon paramanu number in it (prathiparamaanukam).Vegam is a dravyaguna as well as the multiplied value of gathi (movement).

Gathigunithadravyaswenaprathipathi. We can measure , during each kshanam (moment) the gathi (movement) with measures like angula (inch) etc .In Astronomy Palaamgula is used for this.

2 Bhavana .

For a pinda with fixed movement (mass with fixed speed), the Vikshepakakarma in Dikvikshepa is called Bhavana. Dikvikshepa is the positional change in four directions due to speed of the object. The 4 directional speeds are:

4 Angula (inch) to Praag (South); 3 angula to Udag (north); 8 to west (praachi); and 6 to udeechi (East). 4 “ movement to forward and when this is lost the movement to back will increase .



3 Sthaapakam

In opposite direction (to the west) destruction of both happens. The samskara which is permanent is called sthaapakasamskara. Or sthithisamskara (Nitya /eternal) otherwise called Inertia .

4 Bhramanasamskara:

When Gamana and Avakshepana happen, due to these 2 movements revolution (Bhramana) is produced. Bhramana is the permanent accompaniment of Bhavana with gamanam (Movement of a mass with fixed speed moves and expands producing revolution). For sun, and other graham and nakshathra , this is explained with samskara like Parilambana (Laws of parallax) in a savya and apasavya (clockwise and anticlockwise) direction.

5 Kiranasamskara: One fixed paramanu and one moving paramanu (sthiraparamanu + gathiparamanu) have avakshepana and gamana always and this is what we called Bhramana . In this sthiraparamanu is avakshepaka and is samavayi . The avakshipthaparamanu is called samyogiparamanu. If the samavayiparamanu moves in Rijugathi (linear movement) the atomic group will be exact. But, because of the samyogabhramana (revolutionary movement) rise (sunrise) in different points is in a circular manner (Valana ,spiral) This is called kiranasamskara. Kirana is sunray. Like the movement of a group of rays the atomic (anu) movement is also spiral. There are innumerable kirana (rays) which are endless (anantham) and this is known as Chaagam. By them in this and the other worlds, all

communications, and functions happen. These are named as Yajna. Kiranasamskaara is Yajnasamskara/chaaga and is unmanifested and unknown and is the ultimate in science .

The kriyasamskara of dravya (science of vibratory motion of matter) ,gunasamskaara(vibration in quality) jnaanasamskaara (vibrations in knowledge-neurobiological) are known in this way and by this one cognizes the root cause “Vibration” for everything. (of a tharamgakana or quantum wave).

Differences in quality (gunabheda) are of 2 types.

Sannikrishta: colour,taste,smell,touch,sound etc

Asannikrishta : Measures,weights,Maanam(parimaanam),samkhya (numbers) etc.

In aakaasaparamaanu as unmanifested, in jalaparamaanu as manifested we find movement. We observe desadesantharapraphthi for a water wave (in ocean) .Only after observing tsunami waves, one can state this desadesantharapraphthi of oceanic waves. For a solid there is a limit, and we do not find this. In suble paramanu, we notice kampanasamskara(vibratory). Gathi is defined as Prathikshanam kampasamkhya. (Number of vibrations per second is movement). This definition of Kanaada is the definition of frequency. He says due to difference in frequency , different forms are created and that is the secret of diversity of forms in nature. The height,breadth of vibrations decide the form .The forms having same or similar appearance (Sajaatheeyam) and different appearance (Vijaatheeyam) are observed. In sajaatheeya objects, movement will also be similar. (Note that Jaathi of Kanaada does not represent Caste of English language). By the vyuthkramana of gathi , an object gets its breadth. These are inversely proportional.

When the speed is more (gathitheevra) = Vasthuvisthara is less (size of object is less)

When gathimanda (speed is less)= Vasthuvisthara increase (size increase).

Thus from size, one can know the paramanu and their speed in any object,says kanaada.

Paramaanu have dhaarana,aakarshana between them and by these they unite. This is called Sannikarsha. When two sajaatheeya objects unite, we get gathivisthara and this is called SAVARNNA (Resonance). Then, one will not produce inequality to the other. Both remain equal. When 2 vijaatheeya waves unite,in that mixed union, visthara is reduced (nonresonant,less resonant) and these are called AVARNNA and in such cases since there is inequality , inferiority to one happens. This is the law of dravya in which the quality of the cause determine the quality of effect. (Note that here also the terms savarnna,avaranna are not used by Kanada in the sense that we use it now.)

In the beginning of dravya creation,guna of all was aame. All were sajaatheeya. By mixture of dravya in different ratios, vijaatheeya dravya were created. Thus biodiversity also created. Samyoga creates dravya. For everything that had undergone union(samyoga) there is a classification. We can divide/separate them. Wherever there is separation there is Bhavana of Vega.

If there is dependence between 2 objects in a samyoga that samyoga is Samavayam. If it is not there it is called Sambhandham. In samavayam, one is main and the other is secondary. In sambhandham both have equal importance. (In male and female union also this rule was applied by vaiseshikas. In samavaya one of the partners –male or female is more important. In sambhanda female is always equal to male). In general functioning, fire unites in this way (here bioenergy). Dravyamisram is a simple combination of mixtures. Paakajasamyogam is chemical combustion or digestion. In this dravyamisra is not seen as similar.

Anu (atom) is paramanusamudaya (several paramanu) and anusamudaya (several atoms) is a dravya. (Matter). samjnakarmam (nomenclature) of matter is based on its Vaiseshikaguna. (special qualities). When prithvi (which is a prachaya of 5 elements made of their subtle paramanu) has union with Agni (energy of sun) the gross objects are created on it (Sthoolaarambham). In this way Kaashta, paashaana (wood, stone etc) become differentiated. Depending on the Anuprachaya is dravyamahathwa, and depending on it is samskaramahathwa. Thus the rays of forms also are different in their greatness. (Quantity of atoms, molecules changes the quantity, size, gravity of matter). Due to subtleness of the rays our eyes do not see the wave motion of the matter. Only the dravya with different forms is seen. (if we could see the subtle waves with our eyes we would have known that organic and inorganic matter have no difference at all) Therefore, we have to analyse the unknown, unmanifested from the seen, manifested and use our logic to understand the real nature of things. By the analytic thought of all seen objects, their manifested order, rhythm etc we get Samkhyajnaanam which is beyond senses, and abstract. Order is formed due to time and space. To know it one needs control of Chitha. Kramaprathyaksha (perception of order) is not sensory perception but transcendental and Samkhyam.

Just as the gross matter originated by samyoga of atoms of Prithivi, gross body originate by union of gross body. All animals (cow, horse, man etc) are yonija (born from a womb) and depend upon union of a couple. Those who do not depend on such union are called Ayonijam. In this way 14 types of Bhoothasarga (creation of elements) happened first. One among them is human beings.

Evolution of man as a rational, logical being with a heart and intellect :

Once a human being is born, his kriyadharma is based on his gunadharma (qualities determine actions). Predominant Sathwaguna makes a person think, speak and act in more perfect manner than one with Thamoguna and rajoguna. Tendencies, concentration, cognition, memory and behavior etc also depend upon this. According to this human beings are having certain varnadharma based on which Guna (quality) predominates. This is a functional classification based on quality. This is different from Asramadharma, which is based on 4 stages of life in a man's chronological age.

If we want, we can choose sajaatheeya and vijaatheeya individuals and create pure and mixed races and preserve these races forever. This samyoga, samavaya and sambandha combinations can yield numerous species/races and a biodiverse universe is seen around. Only after observing the natural

selection for a very long period Kanaada might have made his formulations and theories which are more scientific than the western counterparts.

Jaathi means one which is Jaatha (born). Which ever is born is a jaathi and is given a class (morphological classification fitting into sajaatheeya and vijaatheeya and mixed). Jaathi include all small and big animals, birds, insects, plants and man. Not just man as a caste. To preserve each of these races of species, certain special rules of union had to be established. In this method, utmost care is taken not to have any contradiction between the order of creation of a supreme God/Nature and theory of evolution by natural selection, and methods of preserving all these species and creating more mixed races by human intervention. As long as the original races are preserved in their pristine pure state and protected from mixing and perishing by such mix, man is not interfering in natural selection and God's order of creation. Therefore, if the west understands Indian theory of evolution, the argument between Darwinism and Biblical creation will be solved. Such a complete analytical and scientific theory of evolution is not present in any other scripture in any other part of the world.

Evolution of man is never complete or perfect until and unless one acquires a pure sathwik consciousness. A spiritually evolved personality with a intellectual and logical interpersonal intrapersonal intelligence, and compassion for all living things on earth is the ideally evolved Rishi or most perfect human being. Just by getting a human birth, evolution of man is not completed. India had several sages who had attained this spiritual perfection. In recent times, Mahathma Gandhi was one such individual who by reaching spiritual zenith, imparted his share for entire India and world as a near perfect model of completely evolved homosapiens.

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